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BY SQUEEZE CEMENTING

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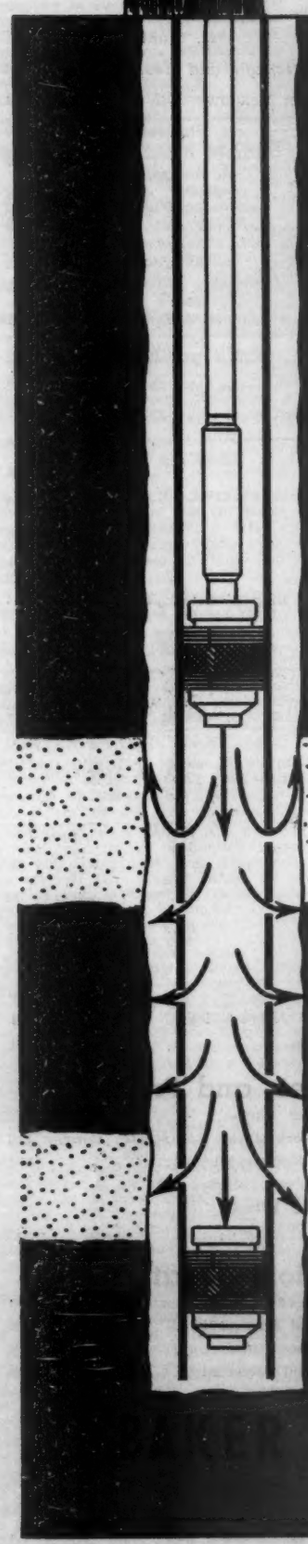

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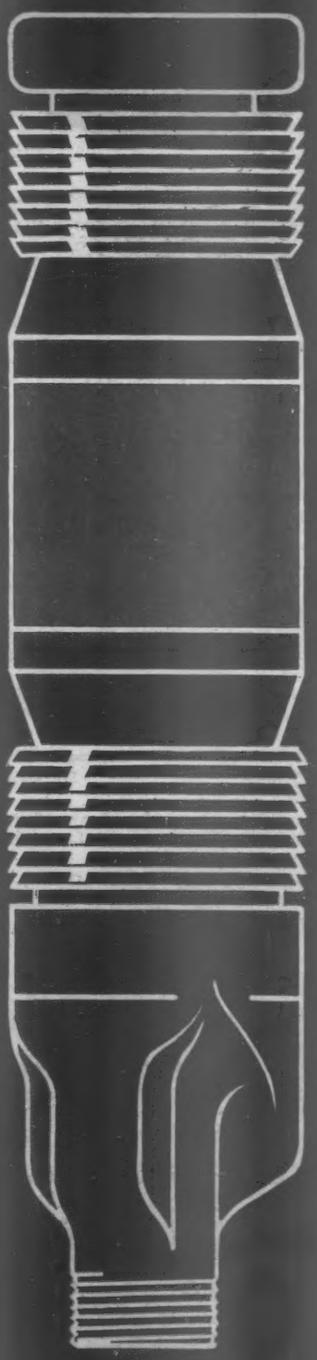

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Trends

Refinery and Retail Gasoline Markets Up Over Large Section

THE first of the week brought further developments indicating that a general advance in refinery, tank-wagon and retail gasoline prices was under way, which probably will spread to include all the area east of the West Coast states. The increases of the past few days included gasoline export and coastwise tanker prices of the Gulf Coast and Atlantic Seaboard states and posted dealer and retail prices in several states, extending from Louisiana to New Jersey. Light and heavy fuels were strong in the same areas.

CRUDE PRODUCTION *3,313,482 bbl. daily average—up 968,336 bbl. One year ago 3,207,919 bbl.*

CRUDE STOCKS *236,643,000 bbl. as of September 2—down 10,339,000 bbl. One year ago 284,919,000 bbl.*

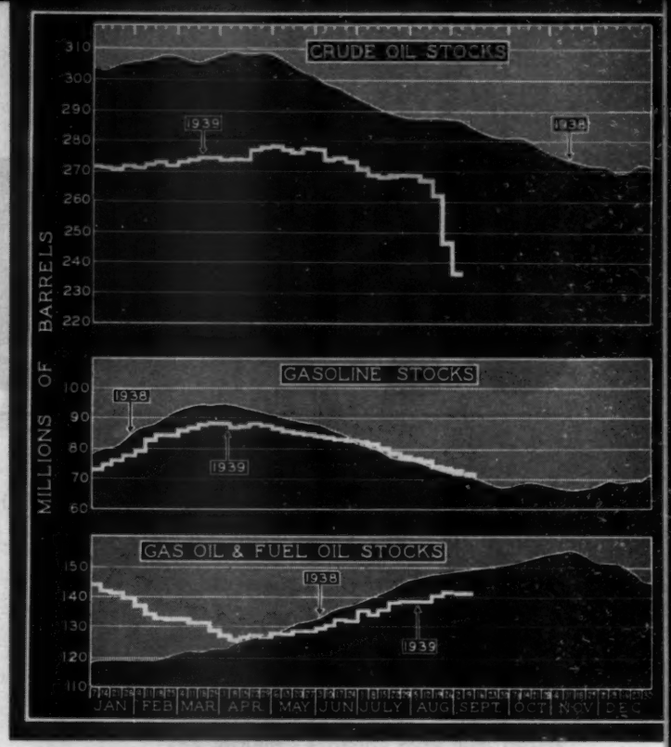
GASOLINE STOCKS *72,244,000 bbl. as of September 9—down 950,000 bbl. One year ago 70,399,000 bbl.*

GAS AND FUEL OIL STOCKS *141,153,000 bbl. as of September 9—down 124,000 bbl. One year ago 148,161,000 bbl.*

REFINERY RUNS *3,380,000 bbl. daily week ending September 9—up 5,000 bbl. One year ago 3,233,000 bbl.*

The reductions in crude prices made effective by several companies in August were explained as due to declines in refinery and retail markets and the resulting sales of crude under the posted schedules. It was conceded that when the crude price reductions were rescinded following the shutdown of oil fields in six states, that the test of whether the crude-price schedules would continue, would be determined largely by future trends in refinery and retail markets. The improvement in these markets, coupled with a decline in sales under posted crude schedules is encouraging to those who are confident that the proper relationship between crude oil and other markets of the industry will shortly be made effective. The advance most needed at this time applies to the gasoline tank-wagon and service-station prices in the states of the Middle West. This situation is complicated by the continued wide-open production procedure in Illinois fields.

CRUDE PROD. BBLS. DAILY
REF. RUNS BBLS. DAILY
CRUDE OIL PRODUCTION 1938
CRUDE OIL PRODUCTION 1939
REFINERY CRUDE RUNS 1938
REFINERY CRUDE RUNS 1939


CRUDE OIL STOCKS
GASOLINE STOCKS
GAS OIL & FUEL OIL STOCKS
MILLIONS OF BARRELS
1938
1939
JAN FEB MAR APR MAY JUN JULY AUG SEPT OCT NOV DEC

Further large reductions in crude oil storage are reported. For the week ending September 2 the reductions totaled 10,339,000 bbl. making a total of 25,843,000 bbl. for the 2 weeks ending that date. With the exception of about 500,000 bbl. all of this reduction was east of California.

Since June 1 crude-oil stocks in the United States have been reduced 41,304,000 bbl. All of this reduction, with the exception of 2,000,000 bbl., has been in areas east of California. The approximate reduction for the 3-months period are Kansas, 2,000,000 bbl.; Louisiana, 3,300,000 bbl.; New Mexico, 2,600,000 bbl.; Oklahoma, 5,750,000 bbl., and Texas, 25,000,000 bbl. Stocks of refinable crude east of California are now below 200 million barrels.

Statisticians believe that this tight situation in regard to crude storage will result in a curtailment of crude runs to stills which have been excessive in recent weeks. Some companies can maintain their peak refinery operations only through further reductions in crude stocks which, owing to changed market conditions, they no longer desire to do. Reductions in refinery operations will be reflected in further strength in refinery markets.

DAILY AVERAGE PRODUCTION FOR WEEK

	Sept. 9, 1939	Bur. Mines Sept. est. of demand	Sept. state allowables	Sept. 2, 1939
Oklahoma City	61,304	.....	.....	25,236
Seminole fields	66,000	.....	.....	12,260
Remainder of state	152,735	.....	.....	88,490
Total Oklahoma	280,039	429,300	384,950	125,986
East Texas	383,897	.....	.....	141,862
West Texas	254,196	.....	.....	154,676
North Central Texas	117,750	.....	.....	82,100
Texas Panhandle	43,398	.....	.....	47,362
East Central Texas	87,399	.....	.....	54,586
Gulf Coast Texas	365,000	.....	.....	284,320
Southwest Texas	98,600	.....	.....	28,881
Total Texas	1,350,240	1,408,300	1,455,718	793,787
North Louisiana	61,445	.....	.....	38,890
Gulf Coast	163,598	.....	.....	122,292
Total Louisiana	225,043	255,700	235,475	161,182
California	617,500	596,000	598,300	600,800
Kansas	123,070	166,300	147,705	34,522
Arkansas	52,520	50,700	.....	33,195
Eastern fields	100,200	101,300	.....	98,100
Illinois	320,792	248,700	.....	311,439
Michigan	66,478	55,000	.....	67,815
New Mexico	99,690	108,700	97,000	32,900
Rocky Mountain area	77,910	90,700	.....	85,420
Total United States	3,313,482	3,510,700	.....	2,345,146

SPARKS . . . FROM THE NEWS

SANDOVAL HEADLINE: Devonian-lime production in the Sandoval, Ill., field took the spotlight last week with two 4,500-bbl. completions.

PROTECTION: The fact that Mississippi's first oil well near Yazoo City was drilled within an 8,000-acre block probably assures an orderly development.

MARGINAL TEST: Developments at Austin Monday gave further indications that the 20-bbl. marginal-well law applied in East Texas is about to have a court test of its legality.

WARNING: The new Texas Oil Producers Equity Association warning against boosting production to meet a war demand that may not develop was timely and wise.

SHUTDOWN AFTERMATH: The strong support now being given by all classes of producers for an equitable and legal enforcement of conservation regulations in Texas and elsewhere is a heartening development of the post-shutdown period.

ORDERLY OUTPUT: National Petroleum Retailers Association, meeting at Des Moines, Iowa, urged enactment of a conservation law in Illinois "to prevent demoralization of the entire industry so that orderly production can take the place of unprecedented chaos."

MODERN VERSION: Napoleon's army may have marched on its stomach, but modern armies "march" on wheels, and wheels mean gasoline — a fact that may prove embarrassing to Hitler if the conflict he has started drags out until his petroleum reserves are exhausted.

RIGHT DIRECTION: The scattered advances reported in wholesale and retail prices was the most encouraging market development of the past week.

PRIMARY IMPORTANCE: A sustained recovery in business activity this fall and in 1940 will mean far more in petroleum consumption than European wars.

SALEM, THE LARGEST: With East Texas shut in Tuesday and Wednesday, the Salem, Ill., field with a production of nearly 200,000 bbl. daily was the largest oil area in this country.

MISSING THE BOAT: Refiners and marketers who are offering their heavy and light fuel oils at bargain prices are overlooking the exceptionally strong statistical position of these products.

QUIET EXPANSION: Minus the usual excitement of a new discovery, the Magnolia field with 12,000-bbl. daily production from 62 wells, is slowly heading toward a goal of becoming the largest producing area of North Louisiana and Arkansas.

WORTHWHILE: It has been figured that the state and federal taxes on gasoline consumed by visitors to the two world fairs will total approximately $70,000,000, or twice the cost of the Golden Gate bridge the San Francisco fair celebrates. Incidentally, more than $150,000,000 gasoline taxes were diverted to non-highway uses last year.

DILEMMA: The war has added to Mexico's grief in regard to its oil industry. Since shipments to Germany have stopped, terminals and storage facilities are becoming badly congested. This may lead to an early expropriation settlement.

MISSISSIPPI'S FIRST COMMERCIAL PRODUCER . . . .

A throng of interested spectators were on hand to view proceedings as Mississippi's first commercial oil producer came in. Well is Union Producing Co.'s No. 1 Woodruff, near Yazoo City

Nazi War Machine Is Facing Oil Shortage

By H. STANLEY NORMAN

A lengthy conflict, it is believed, will see Germany's reserve supply of petroleum reduced to the vanishing point, and with foreign sources unavailable, the resultant shortage may well be the determining factor in the war. The pinch should begin to be felt during 1940.

Acme

Above: Units of Nazi Germany's mighty war machine, soaring through the heavens as part of a recent nation-wide celebration. Right: Britain tests channel-convoy system in combined air and naval maneuvers during a gigantic "play war" recently staged. The picture shows a reconnaissance plane speeding over a sea of clouds, hidden from the pseudo-enemy fleet

NEW YORK, Sept. 11.—The first direct move to coordinate the American aviation gasoline producing capacity with requirements of the Allies in the war was made last week. The French Government was reported in New York to have sought cooperation of leading American and British companies operating in the United States in supplying fighting grades of aviation gasoline. Aviation gasoline producing facilities probably will be coordinated to meet the demand, but details remain to be worked out. Most of those in position to produce an exportable surplus expressed willingness to contribute to cargoes.

However, there remains much uncertainty as to whether inquiries originated with speculators or whether they are backed by a real demand for immediate or near-future delivery. Some inquiries were placed in the category of speculation without hesitation by marketing departments which ignored the requests under the circumstances. There has been no material increase in the shipping instructions from contract customers in Europe, with the exception of lubricating oils and aviation gasoline. Industrial grades of fuel oil, including Bunker C material, are tightly held in the East Coast refining district. Refiners anticipate that Bunker C fuel oil will be one of the first products to feel greater demand from Europe.

The chief reason why observers are unable to gage the extent to which war will increase the demand from this country is that information issued by the belligerents is strictly censored. Motorized units of the German forces, including tanks, food, and personnel transports and tractors, are being used extensively. However, the restrictions imposed in Germany upon the civilian use of gasoline as early as 6 weeks ago are considered to have more than offset the greater army consumption in the campaign so far.

If the war is prolonged the consensus is that petroleum consumption in war uses will be increased from 25 to 50 per cent over peace-time requirements. Neutral European nations are expected to increase their consumption from 10 to 15 per cent, depending upon their policies about supplying munitions, machinery, foodstuffs, and clothing.

All of the larger European countries, with exception of U.S.S.R., have imposed restrictions on civil use of petroleum products. France has confiscated the internal petroleum supplies which amount to 6 months' normal requirements. All French oil companies had 6 months' supply on hand when war was declared. The private com-

panies have been compelled by government decree to maintain stocks at that level for nearly a year. The oil in storage required by France was increased in 1938 from 3 months' to 6 months' supply with an intermediate step to 30 per cent of a year's sales.

Germany is variously estimated to have sufficient petroleum in storage and from internal sources to meet its wartime requirements from 9 months to as high as 2 years. The more liberal estimates are predicated on the impression that Germany could materially expand its facilities for the production of motor fuel from coal and lignite to approximately 70 per cent of its normal requirements. During the months immediately prior to outbreak of the war, Germany was considered to be producing about 50 per cent of its normal motor-fuel requirements through synthetic processes and from domestic crude-oil production.

Synthetic Gasoline Production

In a report on Germany's petroleum economy in 1938 information was given by the United States consul at Frankfort-on-Main. The production of synthetic gasoline last year was placed at 1,300,000 metric tons, or a little more than 10,400,000 bbl. compared to gasoline imports totaling 1,357,102 metric tons.

With the construction of new and the enlargement of existing plants, Germany's production of synthetic gasoline has recorded steady increases for several years. Construction programs were under way late in 1938 and for the first half of this year that will add 350,000 to 500,000 metric tons of producing capacity when completed. Most of the projects for expanding synthetic-gasoline producing capacity should have been completed by this time, with the exception of some in Austria and Sudetenland.

The accompanying tabulation gives the German output of synthetic gasoline from 1933 to 1938:

Year	Met. tons
1933	296,000
1935	580,000
1937	950,000
1938	1,300,000

Prior to 1933 Germany's output of synthetic gasoline was stabilized at around 100,000 metric tons annually, produced entirely in one large plant, the Leuna works of the I.G. Farbenindustrie A.G., at Merseburg, near Leipzig.

The synthetic output in 1938 was furnished in about equal parts by three principal groups of producing plants, namely, the Leuna works at Merseburg; four plants of the Braunkohlen Benzin A.G., situated at Bohlen, Magdeburg, Zeitz and Schwarzheide, all in central Germany; and a number of smaller plants in the Ruhr district, such as the plant of the Ruhr Chemie A.G., at Holten, that of the Krupp Co. at Bochum, the Wintershall plant at Rauxel and plants of the Rheinpreussen Co.

In addition to the plants in operation at the end of 1938, the I.G. Farbenindustrie A.G. announced early this year plans for extension of its synthetic-gasoline producing equipment. Included in Farbenindustrie plans was a new hydrogenation plant at Politz, north of Stettin, which would rank with any plant in Germany from a standpoint of capacity and technical process.

Another source upon which Germany may call more extensively is ethyl alcohol, produced chiefly from potatoes. In 1936 Germany consumed around 200,000 metric tons of ethyl and methyl alcohol blended in light motor fuel. Plans of the German Government called for discontinuing the enforced admixture of 10 per cent alcohol in parts of the Reich accounting for 70 per cent of motor-fuel consumption during the past spring; but this move may be deferred to aid in the general gasoline economy.

Germany is credited with producing approximately 4,299,540 bbl. of crude oil from its own fields in 1938, nearly double the output as recently as 1934. However, domestic fields supply only a minor part of the country's requirements. The following table shows Germany's crude-oil output in the past 5 years for which figures are available:

Year	Met. tons
1934	310,000
1935	430,000
1936	440,000
1937	450,000
1938	609,000

Note: The average conversion factor for German crude oil is 7.06 U. S. bbl. per ton.

Nearly 60 per cent of all German crude-oil production originates in the Nienhagen field, with lesser quantities from Weitze, Oberg and other scattered small fields. There has never been a complete review of the success in the comparatively new Reitbrook field near Hamburg; but the first 10 or 12 completions there indicated it would develop into a substantial reserve. The 1938 crude-oil production by districts follows:

District—	Met. tons
Nienhagen	356,290
Weitze	46,748
Oberg	16,903
Others	188,770
Total	608,711

Gains in Domestic Production

Although gains in domestic production of synthetic gasoline have been substantial in Germany, an expansion of motor-fuel imports was registered in 1938 following a temporary contraction in 1937. The heavy increase in imports in 1938 is attributed to augmented consumption resulting from the incorporation of Austria and Sudetenland, increased demand caused by the further intensification of motor traffic, and the accumulation of large stocks of motor fuel as a military measure. The following table shows a record of Germany's imports of gasoline in the past 7 years:

Year	Met. tons
1932	1,087,678
1933	1,004,758
1934	1,158,385
1935	1,224,344
1936	1,324,651
1937	1,058,200
1938	1,357,102

In contrast to its expanding domestic output of synthetic gasoline, Germany has made but little headway in lessening its dependence upon foreign sources for diesel oil. Imports of diesel oil have increased from 393,000 metric tons in 1932 to 1,468,000 tons in 1938. The gains in imports of diesel oil, as in the case of gasoline, were much more marked in 1938 than in preceding years, due largely to building up of reserves.

The comparative inexpensiveness of diesel oil in world markets in contrast to gasoline was instrumental in causing Germany to concentrate on the production of motor fuel by synthetic methods. The country produces only about 100,000 tons of diesel oil annually. In the past 3 years importations of diesel oil have exceeded 1,000,000 tons annually. The record of diesel-oil imports from 1932 through 1938 follows:

Year	Met. tons
1932	392,727
1933	467,348
1934	639,916
1935	882,993
1936	1,081,326
1937	1,192,145
1938	1,467,566

Since England declared war on Germany there have been no Reich tankers loaded at United States or South American ports. Three German tankers are tied up in a Mexican port. It was reported Germany owes $6,000,000 for oil already delivered by Mexico and it was understood the W. R. Davis contract has been canceled because of unsatisfactory German credit conditions.

The remaining possibility of adequate petroleum supplies for Germany in the event of a protracted war is the U.S.S.R. Although Russia's exports have dwindled to a point averaging only about 15,000 bbl. per day, this might be raised by rigid internal economy. While the recently concluded pact indicates the U.S.S.R. is prepared to supply Germany, it is questionable if its petroleum consumption can be curbed sufficiently to afford any major relief.

Ambassador's View

An oil shortage may be the determining factor in the war, and Germany will begin to feel the pinch in 1940, Hugh Gibson, former United States ambassador to Belgium, said in a broadcast from London.

"From the German point of view, the question of oil is more urgent than the need for food and more vital than it was in 1914, for the army has been motorized to an extent which has to be seen to be believed," Mr. Gibson declared. "The minute the general staff has to sacrifice military considerations to the need for economizing on motor fuel, they will be in a bad way. Those who are qualified to know believe that stocks of oil and certain other materials will just about last out this year, and that Germany will begin to feel the pinch early in 1940."

To those who believe the war will be long drawn out because Germany will be able to draw on the fields of Poland, Rumania, and Russia, Mr. Gibson said:

"The best expert opinion I have been able to get indicates that by the beginning of 1940 Germany will require the full output of the Polish and Rumanian oil fields and also the maximum production of the Russian fields. Can she count on getting it?

"To begin with, the Germans can hardly count on tapping the Polish fields before the wells have been put out of commission, and it will take time to bring them into production again. And may we be permitted a certain doubt as to whether Germans will be able to take over the Rumanian oil fields and do as they like with the output.

"When we come to the Russian supplies of oil there is a whole series of problems to be met. The most important is that the Russian output is not very great."

Transportation of the oil from Russia would be a serious problem, he said.

Since the outbreak of war there have been no Reich tankers loaded at North or South American ports. A possibility of adequate petroleum supplies is U.S.S.R. but if this nation is to increase its oil exports, the most rigid restrictions would have to be placed on domestic consumption, and observers do not feel that even this would afford any major relief. Moreover, transportation of the oil from Russia would be a problem.

Sandoval Devonian Structure

By KEITH A. SPITZNAGLE and HASTINGS MOORE
Consulting Geologists, Evansville, Ind.

THE structure of the Devonian lime at Sandoval is now thought to have a north-south axis paralleling the main "grain" of the west side of the Illinois basin.

Fig. 1 shows the Devonian development at Sandoval plus what is known of the structure of the Devonian surface. The surface of the Devonian is contoured with a 25-ft. interval, sea-level datum, and the water table of —2,440 indicated. The water table is established by Baldwin and others' No. 1 Schaffnitt testing 25 per cent oil and 75 per cent water with a datum of —2,448.

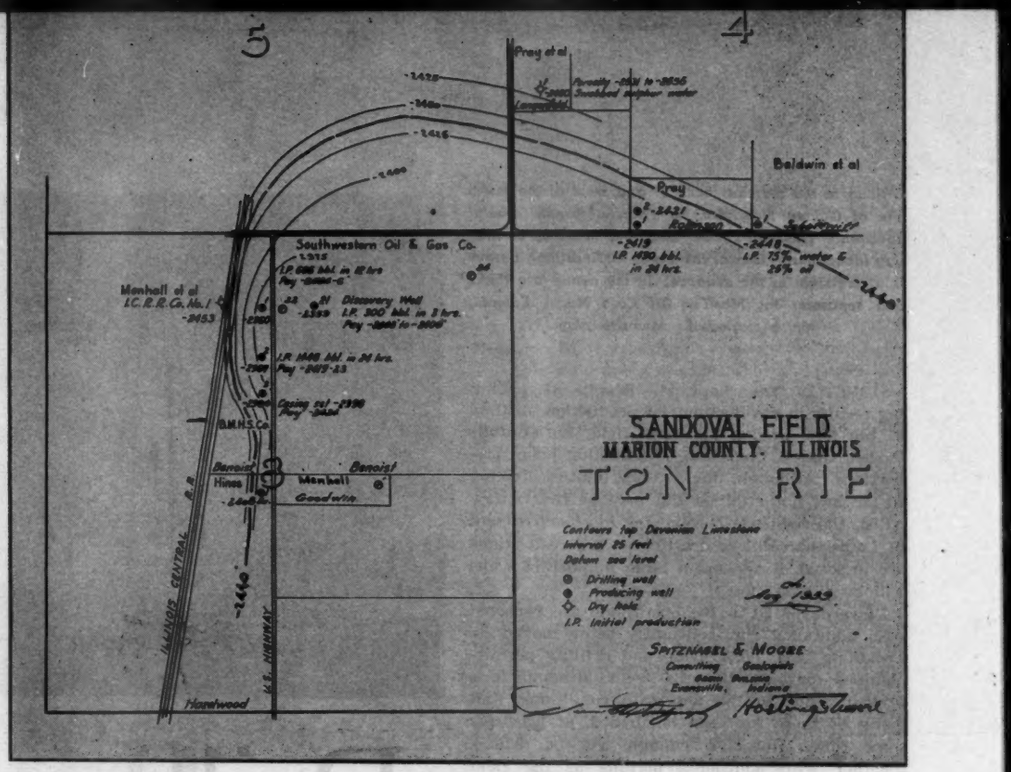


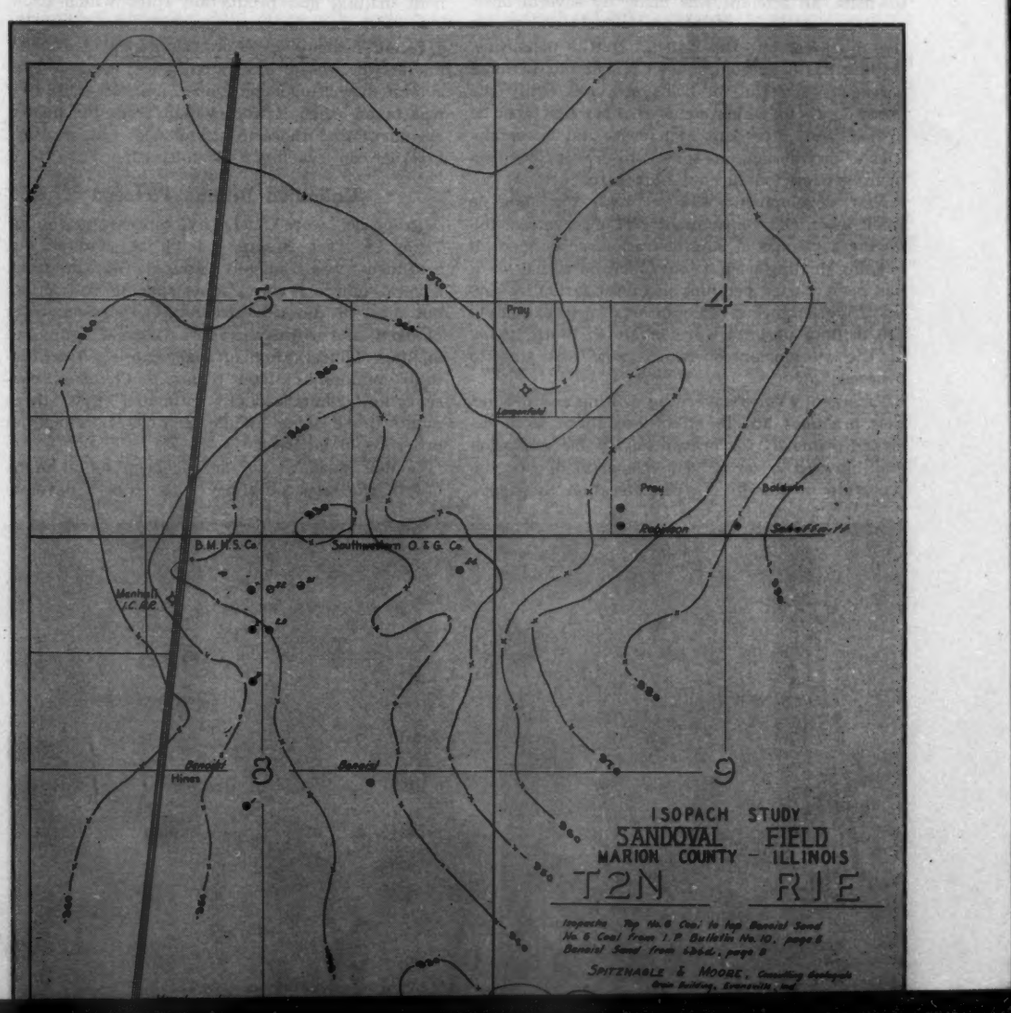
Fig. 1—Devonian development at Sandoval, plus what is known of the structure of the Devonian surface

TABLE OF DEVONIAN WELLS AT SANDOVAL AS OF AUGUST 28, 1939

Operator, well number, and farm—	Elev.	Top Glen Dean	Top Devonian	Pay zone	Completed	Production test	Initial prod. per 24 hr.
Southwestern's No. 21 Benoist	517	1,197	2,876	2,920-26	Dec. 15, 1938	300/3 hours	2,400 natural
(Menhall) B. M. H. S. Co.'s No. 1 Benoist	515	1,202	2,875	2,919-21	June 18, 1939	686/ 12 hours	1,372 natural
(Menhall) B. M. H. S. Co.'s No. 2 Benoist	513	1,230	2,882	2,932-36	July 28, 1939	1,448/24 hours	1,448 natural
(Menhall) B. M. H. S. Co.'s No. 3 Benoist	515	1,215	2,903	2,939	Sept. 6, 1939	4,600/24 hours	4,600 bbl.
Max Pray's No. 1 Robinson	523	1,245	2,942	2,993-96	July 28, 1939	1,430/24 hours	1,430 natural
Max Pray's No. 2 Robinson	523	1,257	2,944	.....	Sept. 5, 1939	Flowing naturally	.....
Max Pray's No. 1 Langenfeld	520	1,260	3,005	(3,051-75)	Dry and abandoned	Sulfur water	.....
Menhall's No. 1 I.C.R.R.	514	1,218	2,967	(3,020-21)	Dry and abandoned	Sulfur water	.....
Baldwin et al's No. 1 Schaffnitt	524	....	2,972	3,020-22	.....	25 per cent oil, 75 per cent water	.....
Hines-Blake's No. 1 Hazelwood	517	1,243	....	.....	Drilling at 2,600 ft.	.....	.....
Southwestern's No. 22 Benoist	...	....	....	.....	Drilling at 2,810 ft.	.....	.....
Southwestern's No. 23 Benoist	...	....	....	.....	Drilling at 1,100 ft.	.....	.....
Menhall's No. 1 Goodwin	...	....	....	.....	Drilling at 637 ft.	.....	.....

Big Four Oil Co. has test drilling at 1,600 ft. direct west, equal-distance offset to Pray's No. 1 Robinson, on Dean land.

Fig. 2—Isopach study of intervals between the No. 6 coal and the Benoist sand at Sandoval field



Excellent Porosity

In endeavoring to evaluate the possibilities at Sandoval the writers consider the widespread, consistent porosity of the pay zone as of prime importance. Above the water table four wells have been completed with initial productions ranging from 1,372 to 2,400 bbl. per day. Menhall's Nos. 1 and 2 Benoist, after 60 and 30 days respectively, are producing 1,500 bbl. a day each. Both wells have a flowing pressure of 120 lb. which shows no measurable drop from their completion dates. The oil is 42 gravity and is being run to Manly Pipe Line Co. Menhall's No. 3 Benoist is being completed for a fine well with the top of the pay 5 ft. lower than Max Pray's No. 2 Robinson, a 280-ft. north offset to his No. 1 Robinson, has casing set and a datum of —2,421. This is but 2 ft. lower than his No. 1 which is a 1,400-bbl. producer.

Wells below the water table have in all cases carried sulfur water, and usually in abundance. Max Pray, at his No. 1 Langenfeld, could not lower the water by bailing or swabbing more than 250 ft. below the surface.

Position of Pay Zone

There has been some discussion about the varying depths below the Devonian surface at which the pay horizon has been encountered. These variations are not excessive, however, ranging from 36 ft. in Menhall's No. 3 Benoist to 51 ft. in Max Pray's No. 1 Robinson, three-quarters of a

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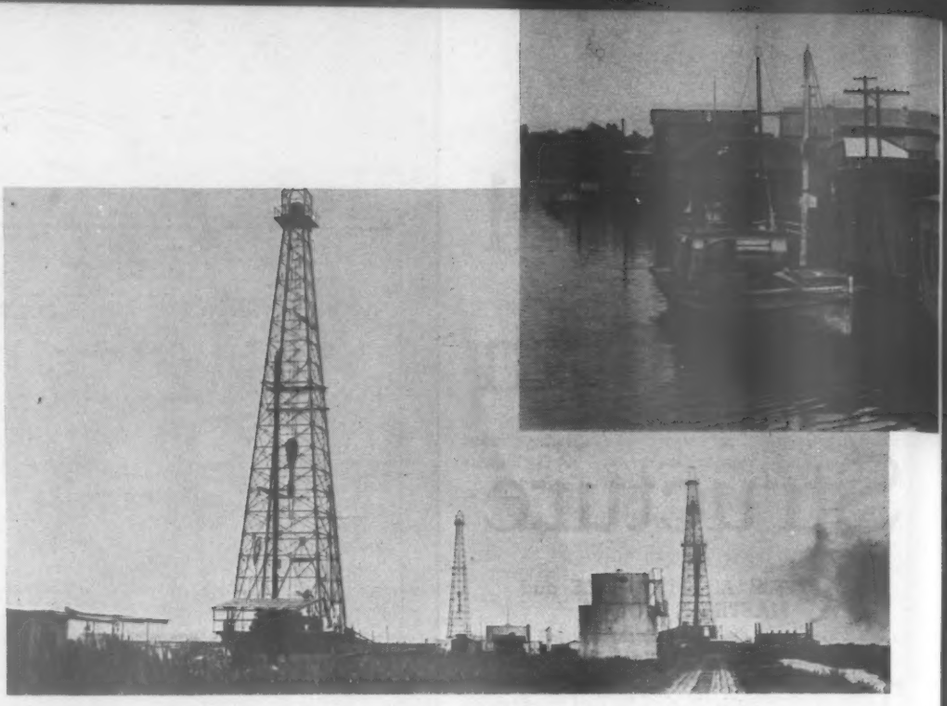


Drilling in the marshes back of and west of the townsite of Golden Meadows, La Fourche Parish, coastal Louisiana. The well in the foreground is set up on matting foundations. One of the Texas Co.'s drilling barges is at the right in the distance. In the center are tanks and separator for Mar-Tex Oil Co.'s No. 1 Falgout, which started the townsite play

Drilling Activity A Proportions in G

By NEIL WIL

HOUSTON, Tex., Sept. 11.—Despite disappointing results in development of production, drilling in the new Golden Meadows field, La Fourche Parish, coastal Louisiana, is assuming boom proportions. Although, due to uncertainties, drilling so far has not attained the pace at first anticipated, the field has become the most active spot in Louisiana. Unless drastic spacing restrictions are imposed, it appears a large number of wells will be put down.

Upwards of 20 active operations are reported with additional rigs constantly being moved in. Locations have been made and drilling permits obtained for more than 120 wells, although it is probable, due to the uncertain conditions, that many of these may not be drilled, at least for some time. However, enough will be drilled, together with additional permits as the field spreads, to insure there will be no early letup.

As yet no drilling restrictions have been placed upon the field, which considering a townsite play involving numerous small tracts with diversified ownership both as to fee and lease, leaves the way open for an indefinite number of wells, depending on extension of production. That the tracts are in long narrow strips with the owners mostly small independents complicates the development. Multiple sands, although of uncertain productivity, further increase the potentialities for drilling.

When, earlier this year it became evident production would extend into the Golden Meadows townsite, an attempt was made by several operators to unitize the field, particularly acreage in the townsite, but this failed. In the meantime, drilling has been going ahead on small, fractional acreage strips and on back-yard lots. Only the great depth to which some of the wells must be drilled, with attendant high costs and uncertainties of production, has served to prevent development getting too far out of control.

New development was set back for about a week when the Department of Conservation, following a change in administration, suspended all existing drilling permits on which no actual work had been started pending an investigation by conservation engineers of conditions. Approximately 115 drilling permits were involved. With lifting of the suspension operators now are free to proceed.

Emergency rules governing drilling and production practices are in effect but these were designed primarily for prevention of fire, explosion and blowout hazards. The Department of Conservation now is giving consideration to permanent drilling and production rules which probably will include some spacing restrictions. At a recent hearing operators, land owners, royalty holders or those interested were requested to submit in writing suggestions for rules. This step was taken when it was evident from the heated argument that those in attendance could not get together on spacing and unitization.

Unlimited Drilling Favored

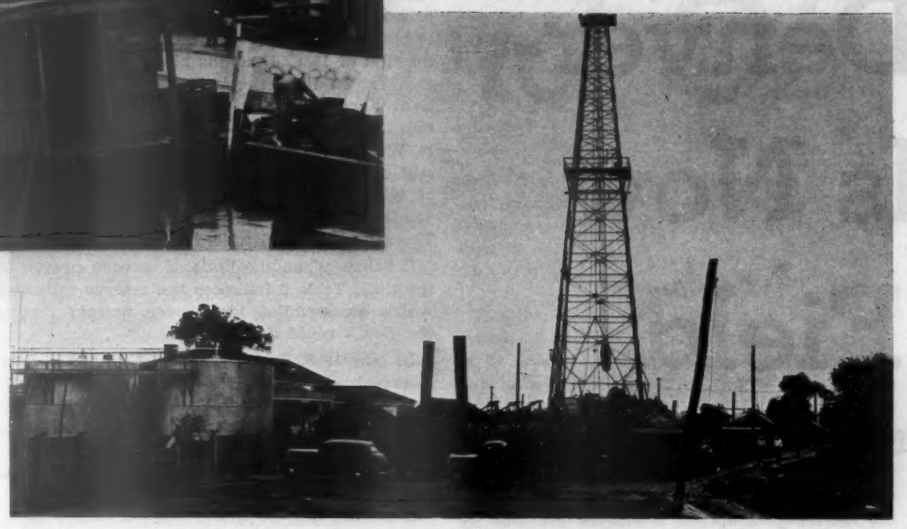
Proposals were made by representatives of Texas Co. that 20-acre spacing be adopted but sentiment was radically against this program. Several others favored some spacing restriction, but most of those in attendance, representatives of land and royalty owners, wished unlimited drilling. Conservation officials expressed no definite opinions but later Ernest S. Clements, conservation commissioner, intimated that there ought to be some middle ground on which an order could be based.

Golden Meadows so far has been found to be one of the most puzzling fields from a development standpoint. A badly faulted and irregular sand condition is indicated, and although there is a multiplicity of sands, each potentially productive, they are extremely segmentary with very spotted productivity. Development has proved treacherous, which may serve to prorate the field automatically. At the same time it is conducive to more intensive drilling by operators in a position to carry on.

Development has not reached a stage where much is known definitely about structural and reservoir conditions but there are at least nine different sands ranging in depth from 2,600 ft. to below 10,000 ft. with thicknesses varying from about 12 to 30 ft. All, however, are not present in all wells, and commercial production has been proved in only four. Peculiarly, the same sand in adjoining wells may show either water or oil, the side of the fault on which a sand may be found has nothing to do with its productivity. Of all the sands identified, only the 2,600 and 2,700-ft. sands seem to extend consistently over the field, and in these the showings have been spotted.

Characteristic of all the sands is the comparatively thin zone of oil saturation, usually not more than 5 ft., making it difficult to complete wells without water, or without appreciable percentages of water production showing up. This seems true regardless of the position of a well on structure, as certain wells that supposedly checked high on the sands were dry or showed only water, while in others oil showings were encountered. Under this condition there is always the prospect that a test, though adjacent to a dry or water

Active drilling scene within townsite of Golden Meadows, La Fourche Parish, coastal Louisiana



St. Marys Oil Co.'s No. 1 Chouest, recently completed well within the townsite of Golden Meadows. At left are tanks of Helis and Danciger's No. 1 School (school showing in background). At right, rig crews are starting to set up substructure for another close offset

Top, center: Bayou La Fourche, on which Golden Meadows, La Fourche Parish, coastal Louisiana, fronts, is a main artery of traffic serving the town

y Assuming Boom n Golden Meadows

NEIL WILLIAMS

well, may find oil production; vice versa, there is no certainty an offset to a producer will get oil. However, with so many different sands, the chances of a well making some kind of a producer in at least one of the sands are increased, although several wells that have found many of the sands failed to get commercial showings in any.

The segmentary entrapment of oil has created considerable speculation as to the source of the irregular accumulations. The most commonly accepted theory is that these various spotted accumulations did not originate in these respective sands but represent seepages from some common source that have found their way up the faults. There is no uniformity of accumulations in any of the sands and there seems to be no structural explanation governing the presence of the oil in the various segmentary traps.

Allowable Is Increased

Allowable production for Golden Meadows in September has been set at 725 bbl. daily which is an increase of 300 bbl. over the schedule for August which was cut short by the shutdown. The allowables, which do not include Bennett Petroleum Corp.'s No. 1-A Rebstock or Texas Co.'s No. 2 L.L.&E., or any other new wells that might be completed, are to be allocated as follows: F. W. Bennett Petroleum Corp., 25 bbl.; William Helis-Danciger Oil & Refining Co., 110 bbl.; Mar-Tex Oil Co., 300 bbl.; St. Mary Oil Co., 200 bbl., and Texas Co., 90 bbl.

Main street of Golden Meadows, La Fourche Parish, coastal Louisiana. The townsite is stretched out on a long narrow strip of high ground along this highway, paralleling Bayou La Fourche, a navigable stream

To date only 10 producing wells have been completed, although eight other tests have been drilled below present producing horizons. With three exceptions all the producing wells are in different sands. The completed wells and their respective sands are:

Well—	Perforated depth (ft.)	Month comp.
Texas Co.'s No. 1 Louisiana Terre Co.	8,500-10	12-38
Mar-Tex Oil Co.'s No. 1 Falgout Holding Co.*	7,929-50	5-39
George Lilly's No. 1 Jack Collins*	5,150-73	7-39
Helis & Danciger's No. 1 School	5,454-59	7-39
St. Mary Oil Co.'s No. 1 Chouest	5,440-52	8-39
Texas Co.'s No. 2 Catfish Lake-State	2,750-72	8-39
F. W. Bennett Petroleum Corp.'s No. 1-A Rebstock	5,309-17	8-39
Texas Co.'s No. 2 L.L.&E.	7,930-50	8-39
Texas Co.'s No. 2 Louisiana Terre Co.	10,050-80	9-39
Texas Co.'s No. 1 Deramie	7,927-37	9-39

*Acquired by Frank W. Bennett Petroleum Corp.

The discovery well, Texas Co.'s No. 1 Louisiana Terre Co., about a mile southwest of the Golden Meadows townsite, originally was drilled to a total depth of 11,135 ft., where 6⅝-in. casing was cemented. It first was perforated at 8,500-20 ft., where it flowed at the rate of 828 bbl. daily through a ¼-in. choke. There it shortly went to salt water, necessitating squeezing and plugging back and reperforated at its present level, where it flowed initially at the rate of 216 bb. daily through a ¼-in. choke.

Located on a large block of acreage held entirely by Texas Co., this well created no general interest, and it was not until after completion in May of the Mar-Tex well at the southwest edge of the townsite and about a mile northeast of the Texas Co. producer that the present play in the townsite got under way. This well was drilled to a total depth of 8,524 ft., where 7-in. casing was set, and was plugged back to 7,975 ft. to test the sand in which it now is producing. For completion, casing first was perforated at 7,925-55 ft. where the well flowed initially at the rate of 250 bbl. daily through a ¼-in. choke. Starting to show water, these perforations were squeezed and the casing was reperforated at 7,929-50 ft., with initial production 240 bbl. daily through a 12/64-in. choke. This has been the best well completed to date.

Production was extended into the townsite proper by George Lilly's No. 1 Jack Collins (since taken over by Frank W. Bennett Petroleum Corp.), which flowed 18 bbl. with about 1,500,000 ft. of gas daily through a 12/64-in. choke. This well, about ½ mile northeastward from the Mar-Tex well (also acquired by the Bennett company), was drilled to a total depth of 8,897 ft., missing the production of the Mar-Tex well. It was plugged back to the 5,150-ft. sand in which the 7-in. casing, which had been cemented at 6,102 ft., was perforated. This well is just off the main street of the town. In the immediate area on closely adjoining tracts Helis and Danciger and St. Mary Oil Co. have completed a well each in a 5,450-ft. sand. Terouche Oil Co.'s No. 1 Cheramie, only about 500 ft. southwest of these wells, failed to get production in these sands. It was drilled to 6,230 ft. and plugged back to the 2,600-ft. sand, in which casing was perforated at 2,647-52 ft., where it tested salt water and was abandoned. Both the Helis and the St. Mary wells were drilled below the producing horizons, the former going to 9,050 ft. without finding commercial production.

Texas Co.'s No. 2 State-Catfish Lake, first and only well getting production in either 2,600 or 2,700-ft. shallow sands, is more than a mile west of this company's discovery well which is in the

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Wasson-Denver-Bennett Is Now One Big Field

By R. MARNE SANFORD

FORT WORTH, Tex., Sept. 11.—Commencing its development in several widely separated spots, the Wasson-Denver-Bennett field of Gaines and Yoakum counties, West Texas, has, after some 2 years of steady drilling, established itself as one of the leading oil fields. With a present estimated proven area of 43,000 acres and an estimated oil reserve of near 344,000,000 bbl., this extensive northern Permian basin field is still by no means defined. Limited by dry holes only on the south edge and on the extreme north edge, there are still many thousands of acres open to exploratory drilling.

Development in this 5,000-ft. Permian lime producing area has not been rapid, but has been consistent, as Table 1 indicates. That the field has been united from several areas opened during its early developmental stages, serves to contrast it with the normal edge expansion of other fields.

Reviewing steps in the development of the field, which at its present undefined stage has almost one-third the proven acreage of the East Texas field, it is noted that the discovery wells of the three original pools were all not less than 6 miles apart. Had the possibility been advanced during the middle of 1937 that Continental Oil Co. and Amon G. Carter's No. 1 Wasson, western part of Section 48, Block A.X., School Lands Survey, discovery well in the Wasson field, would link with the Denver pool opened 3 months previous by Denver Producing & Refining Co.'s No. 1 J. A. Whittenburg estate, NW¼ NW¼ Section 831, Block D, Gibson Survey, it would have seemed highly improbable.

In the middle of 1937 the Bennett field, 8½ miles north of the Denver discovery well, comprised two wells and was generally thought not to be a part of either of the other two areas. By the first of 1938, 6 months after the discovery of the Wasson field, the linking of that area with Denver was seen as a possibility. There were at that time, as Table 1 indicates, 12 wells completed in Wasson and 6 in Denver. The Bennett field still contained only two producers. The middle of 1938 marked the joining of Wasson and Denver into one field located on one large structure. There were then 66 wells in the combined fields.

Constructed on the basis of acreage proven at the time, Table 2 indicates the reserve estimates which accompanied the proven acreage during the field's rapid development.

In May 1938, Shell Petroleum Co.'s No. 1 Dora Roberts opened a field 4½ miles west of the then western limits of the Wasson-Denver field. It was not until the Walker area between the Roberts area and Wasson-Denver was opened that this was definitely established as a part of the great field.

The start of 1939 saw a total of 142 wells in the area which then embraced some 32,000 acres and held an estimated reserve of 256,000,000 bbl. of oil. Development toward including the Bennett field in the rapidly expanding area has made its greatest progress since the first of this year. Several rather undetermining link wells had been drilled in the latter part of 1938 as outposts to both the Wasson-Denver and the Bennett fields; but they were still separated by 3½ miles of unproven territory.

Since the first of 1939 many thousands of acres have been proven or semiproven, both between Wasson-Denver and Bennett and at two eastern outposts of the Bennett field. For each producer completed in the between area in the past 8 months about three more tests were started, until now that part of the field is one of the most active. Additional links are being forged to the chain weekly and by the first of 1940 it is very likely there will be even more proven acreage in the between area than indicated on the accompanying map.

Perhaps the most significant step in the linking of Wasson-Denver with Bennett was completion of Texas Pacific Coal & Oil Co.'s No. 1 A. M. Brownfield, SE¼ NE¼ Section 802, at that time more than 2 miles northeast of the body of the Wasson-Denver field and some 3½ miles southwest of the Bennett field. No. 1 Brownfield checked 134 ft. lower on top of the anhydrite than the discovery well in the Denver field. It was 149 ft. lower than the Denver discovery on top of the Yates; however, the well was completed for 928 bbl. of oil daily from the pay section topped only 74 ft. lower than the Denver discovery. This opened the entire northeastern part of the Wasson-Denver field and the entire south-

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TABLE 1—NUMBER WELLS DRILLED

From	To	Wasson	Denver	Bennett	Roberts	Walker
As of	1-1-38	12	6	2	0	0
1-1-38	7-1-38	48		20	1	1
7-1-38	1-1-39	76		33	5	2
1-1-39	7-1-39	99		29	3	5
7-1-39	9-1-39	45		8	2	1
Total		286		92	11	9

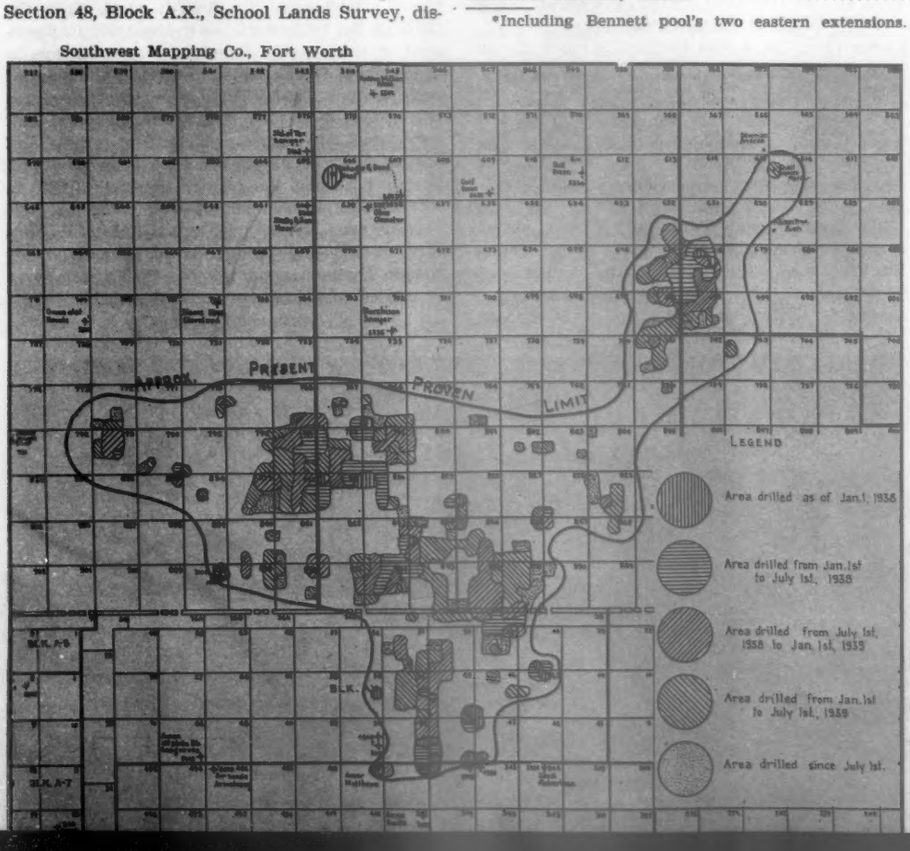
Total entire area, 398.

TABLE 2

	Wasson-Denver	Bennett	Roberts	Walker
As of 1-1-38—				
Estimated proven acres	15,000	800	.....	.....
Estimated reserves, barrels	120,000,000	6,800,000	.....	.....
As of 7-1-38—				
Estimated proven acres	27,000	1,200	160	160
Estimated reserves, barrels	216,000,000	10,200,000	1,280,000	1,280,000
As of 1-1-39—				
Estimated proven acres	32,000	2,500	640	900
Estimated reserves, barrels	256,000,000	21,250,000	5,120,000	7,200,000
As of 7-1-39—				
Estimated proven acres	34,000	*5,000	2,000	
Estimated reserves, barrels	272,000,000	42,500,000	16,000,000	
As of 9-1-39—				
Estimated proven acres	43,000			
Estimated reserves, barrels	344,000,000			

*Including Bennett pool's two eastern extensions.

Southwest Mapping Co., Fort Worth



The Wasson-Denver-Bennett field of Yoakum and Gaines counties, West Texas, now embraces some 43,000 acres. Map indicates the amount of acreage drilled each 6-month period since the first of 1938

War and Oil

The question uppermost in the minds of operators in all branches of the oil industry at this time has to do with probable effect of the war on its operations. Many false assumptions have been made predicated in many cases on developments in the previous World War. Speaking on the subject of "War and Oil" before the Tulsa Chamber of Commerce, September 8, C. O. Willson, editor of The Oil and Gas Journal discussed present conditions in the world oil industry in relation to war. The talk is reproduced in part in the accompanying article.

WE are now entered upon another war period with four—United Kingdom, France, Germany, and Canada—of the six largest petroleum consumers already engaged. The U.S.S.R., the second largest consumer, and Italy, the ninth, are possible entries. Japan, ranking eighth, is seeking control of the Far East through a successful war.

Many believe that this war fire will continue to spread until this country will be drawn in which will mean that areas absorbing more than 85 per cent of the world's oil production will be engaged in combat.

Petroleum, made available largely from this country, was a controlling factor in the winning of the last World War by the Allies. It is certain that products of our industry will again occupy an equally strategic position in the conflict now under way.

World production of crude oil at this time is approximately 5,600,000 bbl. daily, five times what it was 25 years ago when the previous World War started and four times the average output in 1918, when it ended.

Since the close of that war the demand for petroleum has spread in all directions until it is now an essential commodity in the lives of civilized people everywhere. Since the war, 28 billion barrels of petroleum have been produced and consumed, a quantity which is four times as great as the production of the previous 60 years. These were the petroleum demands of a world which for two decades enjoyed comparative peace and an opportunity to participate in a better standard of living, the greatest and most widespread in history.

Consumption of Allies

Let's consider for a moment the positions of three major nations — United Kingdom, France, and Germany—now at war; their petroleum needs and available supplies. In recent years all three nations have endeavored to find petroleum within their own borders with little or no success. The United Kingdom has no commercial production, France less than 1,500 bbl. daily, and Germany about 14,000 bbl. daily.

The United Kingdom has successfully sought control of crude supplies outside its own borders at scattered points. Most of its large imports, however, still come from sources which it does not control.

France has greatly expanded its refining facilities and has a partially controlled crude supply. It still has to supplement the output of refineries with import shipments of finished products.

Refineries within Germany have to look to other countries for a large part of the crude to operate their plants and the Reich is one of the large importers of finished products refined in other countries. Germany exceeds any other country in the production of petroleum substitutes from coal and other raw materials but available information indicates this output represents less than one-third of its total requirements. Substitutes are of little importance in the United Kingdom and of no consequence in France.

From the latest information available, we estimate the yearly petroleum consumption of the United Kingdom to be 95,000,000 bbl., or 250,000 bbl. daily; France, 56,000,000 bbl., or 153,000 bbl. daily, and Germany 51,000,000 bbl., or 140,000 bbl. daily. This total of 553,000 bbl. daily is 25 per cent greater than the present crude-oil output of Oklahoma, and 50,000 bbl. daily less than California's output.

Source of Supplies

Based on 1938, data, covering oil import shipments, the United Kingdom obtains 47 per cent of its total imports from Venezuela, Trinidad and two large refineries of the Netherland West Indies, largely operated with crude from Venezuela; 18.5 per cent from the United States; 20.5 per cent from Iran; and small quantities from other countries. So far this year percentage shipments from South America have declined, with a gain to 22 per cent from the United States.

France in 1938 obtained 39 per cent of its supplies from Iraq; 35 per cent from the United States; 20 per cent from South American countries. Germany last year purchased 33 per cent of its imported petroleum from the two large refineries of the Netherland West Indies; 27 per cent from the United States; 11 per cent from Rumania; 9 per cent from Venezuela and Peru.

Exportable Surpluses

The question naturally arises, "What will happen to these peace-time movements of petroleum now that these three countries are at war?" Before taking up that subject directly, brief analyses of the exportable surpluses of the principal oil-producing countries are in order. The 10 largest oil countries are producing currently about 96 per cent of the world's supplies. They are in order: The United States, 61 per cent; U.S.S.R., 10.5 per cent; Venezuela, 10 per cent; Iran, 4 per cent; Netherland East Indies and Burma, 4 per cent; Rumania, 2.2 per cent; Mexico, 1.8 per cent; Iraq, 1.5 per cent; Colombia, 1.1 per cent and Trinidad, .9 per cent.

For the purpose of this discussion we can eliminate the Far East crude supplies because present production is largely absorbed by the markets of that area. Substantial exports from the United States and other countries are necessary to supply the market. Mexico, temporarily at least, does not need to be considered for its production since expropriation of private oil interests in March last year has declined to the point where its exports are not an important factor in world markets.

Owing to steadily expanding domestic requirements, exports from the U.S.S.R. have been decreasing steadily since 1932 and this year shipments less than 3 per cent of the total production of 590,000 bbl. daily.

Most of Iran's (Persia) 215,000 bbl. of crude daily is produced under a concession held by the Anglo-Iranian Oil Co., Ltd., largest of the British oil companies in which the government has a 50 per cent interest. Because this Iran production has to take care of the petroleum needs of a large part of the British Empire and other countries located in Africa and Asia, less than 25 per cent of the total has been available to the nations at war in Europe. No increase in production of Iran is in prospect at this time.

The production of Iraq, a British mandate country, was made available in world markets in 1934 through the completion of a pipe line connecting the Kirkuk field to the Mediterranean Sea at Haifa, Palestine, and Tripoli, Syria. The present crude production made available at these two terminals is about 85,000 bbl. daily and cannot be increased except through the enlargement of the transportation medium.

Another factor in the Mediterranean area is Rumania, with exports of approximately 75,000 bbl. daily. Operations in that country are carried on by several subsidiaries of American, British, and Dutch and Rumanian companies. Poland's expensive production of 12,000 bbl. daily is only slightly in excess of domestic needs.

It seems reasonable to conclude that there will be no important increases in the exportable surpluses of Iran, Iraq, and Rumania. Any expansion in their shipments to nations at war will mean that neutrals dependent on them must look to other sources of supply. If Italy joins Germany in war, military observers have said that the Italian Navy will be able, temporarily at least, to retard the movement of Asiatic or European oil products through the Mediterranean.

This analysis leads inescapably to the conclusion that Great Britain and France and any countries that may join them later must look to the North and South American continents for a continuance of the oil supplies they are now getting, including any increases required to maintain their armies, navies, and air forces.

Oil under international law is contraband and may be seized by belligerents in shipments to nations at war. Through superior naval forces, Great Britain and France will presumably have an advantage over Germany in keeping the seas open for the transportation of petroleum.

If they are able to shut off Germany's 90,000-bbl. imports by water through the Baltic and North seas that country will have to turn to land shipments from the U.S.S.R. and Rumania. To supply Germany, the U.S.S.R. would have to increase its output or curtail its own consumption.

As to the Allies, this country and Venezuela are the only two nations in a position to furnish additional supplies of any size at this time. Most of Venezuela's output of 560,000 bbl. daily is produced by subsidiaries of the Standard Oil Co. of New Jersey and the Royal Dutch-Shell and is refined at the two Netherlands West Indies refineries previously mentioned. It has an exportable surplus of 540,000 bbl. daily, the largest single factor in world oil markets outside this country. Recently a pipe line tapping a new light-oil area was constructed in eastern Venezuela. Deliveries through this line will start shortly, but it probably will be well into 1940 before production and deliveries exceed 25,000 bbl. daily. Gains in some of the older areas in Lake Maracaibo and eastern Venezuela, are to be expected. A new line, connecting the Barco concession in eastern Colombia

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TEXAS

FACING THE TEXAS RAILROAD COMMISSION at present is a new problem resulting from the recent 15-day shutdown of oil fields. Namely, what to do about charging back allowables to wells which were exempt from the shutdown order. The wells were exempt because the cutting of their allowables possibly would have injured the wells. Mostly they were strippers and wells making great quantities of water. A few were left open to supply gas as fuel for local situations.

At one time the exemptions amounted to 288,000 bbl. daily. When this oil came out of Texas during the shutdown period, representatives of other states started protesting that Texas was not living up to the agreements of a complete shutdown of all wells. The Railroad Commission's reply was an order under which all wells allowed to remain open during the shutdown period were to be required to make up the amount of oil produced from their subsequent allowables. Now that the shutdown period is over, the time is at hand when those wells must start making up their open production, and the Railroad Commission finds itself confronted with the original problem.

For, if the particular wells which were allowed to produce during the shutdown were given that permission because any restriction on them would possibly prove injurious, how can they now be cut back without the possibility of suffering the same injury? Most logical procedure as advanced by many interested parties would be to subtract an infinitesimal amount from the allowable of each of the wells, thus over a long period of time a negligible amount of injury would incur and the wells could make up their shutdown production. Changing schedules and new allowable orders were given as reasons by certain other interested parties for believing that the chargebacks would not be made.

ORGANIZATION OF THE INDEPENDENT OIL Producers Equity Association was announced at the Texas hearing at Austin September 11 by R. H. Foster, Landreth Production Corp., Fort Worth, who offered the service and cooperation of the organization to the Railroad Commission in administration of the conservation statutes. Mr. Foster said the purpose of the association will be the promotion of equity and equality in the administration of the conservation statutes relating to the producing and marketing of petroleum in Texas.

Offices of the association have been opened in Austin with Frank Harrell, engineer and geologist, in charge; G. A. Goulding, formerly an engineer with the Railroad Commission, assistant, and Clint Small, general counsel. Officers are: President, Joe Bridwell, Wichita Falls; vice presidents, J. L. Hamon, Dallas; Henry Bell, Tyler; George Morgan, San Angelo, and J. D. Sandefer, Jr., Breckenridge; secretary-treasurer, W. A. Moncrief, Fort Worth, and members of the executive committee, Eddie Dunagan, Pampa; Lloyd Wheelock, Corsicana; Henry Adams, Midland; R. H. Foster, Fort Worth; Hardy Moss, Dallas; Harry Reynolds, Cisco; Charles F. Roeser, Fort Worth, and Sam Ross, Kilgore.

THE INTERSTATE OIL COMPACT COMMISSION will meet Friday September 15 at Fort Worth to discuss the action of the Texas Railroad Commission in increasing Texas production allowables.

THE COMMISSION HAS CALLED A HEARING at Austin September 19 to determine whether Wasson, Bennett and Waples-Platter field wells in Gaines and Yoakum counties are producing from a common reservoir and the need for uniform rules.

CALIFORNIA

THE CALIFORNIA STATE SUPREME COURT refused to grant a petition for a writ of mandate prohibiting appearance of the Atkinson oil control bill on the November 7 special "ham and eggs" ballot; hence if sponsors of the referendum succeed in securing 132,573 qualified names this proposition will go on that ballot. This decision is in accordance with a ruling of the secretary of state that the issue would be voted on this year if operation of the measure is held up by referendum. Sponsors of the referendum sent a telegram to one official charging that he is asking all county officials to delay referendum petitions until the last minute in order that sponsors may not be able to file supplemental copies. Final results of the petition will be available in about a week, as the various county officials have 25 days in which to check signatures to determine the number of valid names.

The state administration will make every attempt to defeat the referendum but sponsors of the referendum are watching for any violation of the law, which is very strict, and have posted a reward of $1,000 for information leading to arrest and conviction of anyone tampering with the petitions.

Standard Oil Co. is still holding out in defiance of the subpenas issued by the special federal grand jury and will not present its books and records until the matter is decided by the Appellate Court. Other operators including Union Oil Co., Shell Oil Co., General Petroleum Corp., Tide Water Associated Oil Co., Seaside Oil Co., Texas Co., Gilmore Oil Co., Richfield Oil Corp., and Rio Grande Oil Co. have submitted photostat copies. If members of the grand jury go over all these records with any degree of care they will be a year trying to find out what it is all about. Leslie Callahan and J. W. Wood, who were convicted of violating the California gas conservation law, and severely fined by a Los Angeles Superior Court, have appealed to the District Court of Appeals for a writ of habeas corpus which would vacate the decree of the lower court.

JOHN I. WATSON will become examiner in charge of federal petroleum conservation work in the State of Michigan about September 15. He has been with the Federal Tender Board at Kilgore, Tex., since 1934. He is a native of Chicago and a graduate of the University of Chicago. The newly created federal petroleum agency in Michigan will operate under the Connally "hot" oil act. Mr. Watson recently spent several days in Michigan surveying oil conditions.

STATE CAPITALS

MICHIGAN

THE MICHIGAN CONSERVATION COMMISSION last week end adopted a recommendation of P. J. Hoffmaster, supervisor of wells, that permanent regulations be enacted to reduce the state's oil production by approximately 40,000 bbl. per month. The plan is favored by the Oil Advisory Board, which conducted a public hearing to determine effects of the temporary curtailment in effect since August 21.

Mr. Hoffmaster told the Conservation Commission that operators throughout Michigan were satisfied with the temporary orders. At the present time, he added, demand is approximately 3,000 bbl. a day in excess of supply, but he believes new wells, principally in the Walker-Wyoming field in Kent County, will boost supply to above the demand within a month.

The oil board also wants made permanent an emergency ruling allowing prorated production on wells on tracts of more than 10 acres.

SECRETARY OF INTERIOR HAROLD L. ICKES announces that an investigative office under the Connally law will be established at Lansing, to assist the Michigan Commission of Conservation in the administration of Act No. 61, approved by Governor Dickinson on May 3, 1939.

The office at Lansing will be in charge of Examiner John I. Watson, now with Federal Tender Board No. 1 at Kilgore, Tex.

LOUISIANA

THE SUIT OF GEORGE E. LILLY, Texas oil producer, attacking the constitutionality of the Louisiana proration law, has been set for hearing September 18 in New Orleans before a three-judge federal court.

Lilly's petition charged discrimination under the state law by which the Conservation Department allegedly denied him a drilling permit in the Eola field while others in the field were permitted to produce oil in excess of the allowable set for him.

AN INCREASE OF 4,000 BBL. A DAY in the shipment of oil from the Lisbon field in North Louisiana was approved by Gov. Earl K. Long, following a conference between major producers in the field and representatives of the pipe-line companies.

Present shipments from the field have been 2,100 bbl. a day. This will be increased to 6,000 bbl. immediately, and when the next proration order is issued, near the end of the month, the allowable of the field will be raised to permit 6,000-bbl. a day production, Governor Long announced.

Pending the issuance of the next proration order, said the governor, the increased shipments from the field will come from surplus stocks, accumulated out of allowable production for which until recently there has been no market. There are 100,000 bbl. of oil stored in the field to be disposed of before any increase in production need be authorized.

The additional shipments from the field will be taken care of by Standard Oil Co. of Louisiana, Gulf Refining Co., and Grogan Oil Co. through their pipe-line facilities. Grogan Oil Co., which is now the major purchaser in the field, will take an additional 1,000 bbl. a day and Standard and Gulf will take 1,500 bbl. each.

KANSAS

CONSTITUTIONALITY OF THE KANSAS oil-proration law is challenged in an action filed in federal court at Wichita by Tulsa Oil Corp., which has considerable production in the Hittle pool of Cowley County, a field where very large wells have been brought in frequently.

The plaintiff alleges proration orders for its wells in the Hittle pool are unconstitutional and seeks a temporary restraining order pending calling of a three-judge court to hear the constitutional issues involved.

Method of taking potentials by the "draw down" method is protested as showing production of wells below actual capacity. Objection also is made to permitting a relatively higher production from minimum wells which are given a fixed production.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

A Domestic Industry

While awaiting the reaction from the war upon the oil industry outside this country, it is well for the industry in the United States to keep in mind that petroleum is essentially an American industry, with our domestic consumption the most important factor in world operations.

The petroleum industry was started in this country 80 years ago, and most of the important developments in both production and demand have taken place within our borders. In this country, more than any other, the war use of petroleum has always been a small fraction of the total demand.

The great gains in demand for petroleum products in the United States have come from the millions of owners of internal-combustion engines, oil burners, lamps, and hundreds of other consumer outlets.

This demand, except for brief periods, has expanded rapidly ever since the close of the last war and largely accounts for the fact that four times more oil has been consumed since the end of the World War than in the previous 60 years.

Today, this country accounts for approximately two-thirds of all the gasoline consumed in the world, and the total consumption of all petroleum products is double that outside this country.

The petroleum consumption per person in this country is now approximately 9 bbl. per year, or from 4 to 80 times greater than in European countries.

Government reports show that in the first 6 months of this year the domestic demand for petroleum products increased 44,000,000 bbl., which indicates that the increase during the year will be in excess of 80,000,000 bbl.

The motor-fuel demand this year will be about 25,000,000 bbl. greater than it has ever been. New records also will be established in the consumption of kerosene and the lighter fuels, and most of the ground lost last year in heavy fuel will be regained.

Right now, all the key figures point to another record domestic demand in 1940.

All this development took place before the war was declared, emphasizing the fact that the trends in demand for petroleum products in this country are far more important than any developments outside this country can be.

War may shift some of the demand supplied by other countries, to this country. War does not increase outlets for petroleum and other essential commodities so much as it disturbs the routine of peaceful trade.

Nations at war, with so much of their man-power engaged in combat or in manufacturing supplies, are unable to maintain their usual production. The interruption or closing of traffic routes further dislocates trade.

It is entirely possible that the production and transportation of oil now produced and exported in Europe and Asiatic countries will be obstructed or indeed prevented, causing that demand to seek supply in this country, although no one can say positively at this time that this will take place.

Other possible war disturbances may bring about inflation or dislocations of credit and business which have nothing to do directly with the production and supply of oil but will affect both.

But, if the American industry will keep in mind that our domestic market is more important than anything outside and gage its operations accordingly, we can be ready for any eventuality.

It is just as necessary now as ever to keep firm control of our own situation and not allow ourselves to be misled into removing the wise restrictions upon production which our own experience has justified.

Drafting Illinois Conservation Bill

MATTOON, Ill., Sept. 12.—The first draft of an oil conservation bill that may be presented at a special session of the Illinois Legislature was discussed at a meeting of representatives of divergent groups of Illinois oil operators here today. Attorneys and members of the Independent Oil Producers Association of Illinois, the Petroleum Association of Illinois and the Illinois-Indiana Petroleum Association, with representatives of major companies, have been working on the proposed measure the past week in an effort to draft a bill that will be supported by all groups.

Details of the proposed bill were not announced, although it was known that provisions covering ratable taking, minimum allowables by wells and unitization of small tracts were considered. While they have agreed on the principle of conservation, representatives of the respective groups had not yet agreed on all details. These differences were expected to be adjusted, so a conservation measure fair to landowners, independents and major producers alike could be prepared for submission to the legislature.

No call for a special session has been issued, but Governor Horner has not changed plans to call a special session this fall to consider old-age assistance. However, the governor was expected to wait until he returns to Springfield about October 1 before issuing the call. The governor has been asked to include oil legislation, and petitions were to be presented asking him to do this. It has been suggested that the proposed oil legislation would deal not only with conservation, but would include the levying of a gross production or other tax on crude to supplement relief funds.

The petitions asking that oil legislation be included in the call were not expected to be presented to Governor Horner until the operators have agreed on final draft of a conservation bill.

The National Association of Petroleum Retailers, in session Monday at Des Moines, Iowa, joined in the wide clamor for conservation in Illinois. The association adopted a resolution asking a production limitation law for the Illinois fields "to prevent demoralization of the entire industry." Illinois dealers were urged to fight for an oil conservation law so orderly production will be assured.

Secretary Ickes commended efforts of Governor Horner to obtain oil legislation, according to dispatches from Washington, and, saying these efforts were balked by the last legislature, he expressed the belief a national oil conservation law was needed. He complained that the federal Government is powerless to prevent increases in state allowables and termed present state laws as mere "price-boosting" statutes.

"Illinois is a wildcat state so far as oil is concerned," he was quoted. "It does not seem to have any consideration of the effect on other states and the national economy as a whole."

Congressman Visits Exhibit

Rep. William P. Cole, Jr., of Maryland (left) and Pres. William F. Humphrey of Tide Water Associated Oil Co. were recent visitors to the petroleum exhibit on Treasure Island, San Francisco. Congressman Cole indicated that meetings of his subcommittee for consideration of the federal petroleum conservation bill probably would start in October. He visited the Ventura, Long Beach and Kettleman Hills fields in California, and other oil-producing areas. He expressed the hope members of his committee would be able to make a personal inspection of oil sections before hearings on the bill were started.

First F.T.C. Order Under Robinson-Patman Law

WASHINGTON, D. C., Sept. 12.—Federal Trade Commission issued a cease and desist order against American Oil Co., Baltimore, Md., and General Finance, Inc., Washington, D. C., under the Robinson-Patman Price Discrimination Act, the first oil case under this law.

No hearings were held, the case being decided on the complaint and answers. Finance company, operating taxi fleets, is ordered to cease obtaining gasoline on commercial consumers' contract for its own use and reselling to the general public. The commission found that American sold Finance company petroleum products at prices lower than the wholesale price to dealers, resulting in discrimination, and ordered this discrimination stopped.

THE MARKETS*

CRUDE OIL: There were scattered advances applying to small quantities of crude oil for the most part. The most important change of the week was the 10-cent advance in the posted price for Salem, Illinois, crude.

REFINERY: Gasoline markets particularly strong with general advances at Gulf and Atlantic seaboard points for domestic and export movement. Little change in Mid-Continent gasoline markets, which await higher posted-dealer prices in Middle West. Light and heavy fuels also strong at coastal points east of California. Pennsylvania Grade lubricants strong.

TANK WAGON AND POSTED DEALER: General advances in gasoline prices in Standard of Louisiana and Standard of New Jersey territories. Kerosene strong.

FINANCIAL: Advances apply to all stocks. Average of 30 representative stocks for week ending September 9: High, 30.22; low, 27.84; close, 29.41. Week ending September 2: High, 25.58; low, 22.29; close, 24.99.

*Detailed information in market section.

American Chemical Association Session

BOSTON, Mass., Sept. 14.—Petroleum chemists assumed a more important role at the ninety-eighth annual meeting of the American Chemical Society here this week. Sessions of the Petroleum Division have been held throughout the past 4 days and final meetings will be held tomorrow to conclude what all agree has been a most practical and helpful exchange of ideas. The discussions were especially interesting and timely in view of the military significance which may be placed upon developing synthetic materials from petroleum. The commercial production of such materials could alter greatly the economic structure of the petroleum industry. A summary of the most recent work of this type was presented by Dr. Per K. Frolich, director of chemical laboratories for Standard Oil Co. of New Jersey. In part, he said:

Abstracts of papers presented before the Petroleum Division of the American Chemical Society this week in Boston appear on Pages 49 and 50.

"In the past, coal and coal-tar hydrocarbons were the main sources of raw materials from which the more important plastics were made. Coal no longer monopolizes this field, as petroleum is rapidly becoming an important raw material for resins and plastics, and this explains the Petroleum Division's interest in the subject. The petroleum industry has the advantage of being able to furnish raw materials in large volume and at low cost.

"The materials falling in the general class of synthetic resins and plastics are at present being produced in the United States to the extent of some 200,000,000 lb. per year. Products of these materials, which are rapidly assuming an increasing importance in our every-day life, are being used more and more in electric fixtures, shatterproof glass, nonbreakable dishes, automobile steering wheels and miscellaneous gadgets, certain types of power transmission, as constituents of paints, varnishes and lacquers. Because of the unusual effect obtainable, sheets of plastic materials offer a great deal of promise for use in interior decoration.

"The successful manufacture of synthetic rubbers, which in certain respects are superior to the natural product, is probably the most startling recent development in this general sphere. It is reported that a synthetic product now made commercially gives automobile tires a greatly increased wear resistance.

"The latest development with which the chemical industry is now busy is that of converting some of the synthetic resins and plastic materials into fibers suitable for the manufacture of threads, knitted articles, and woven fabrics of superior strength and wearing quality."

In view of the great amount of work being done in the laboratories of refining companies, the society arranged for a symposium on the subject of "Plastics and Resins From Hydrocarbons," at which appeared jointly the members of the Petroleum, Rubber and the Varnish and Paint divisions. The broad scope of the work is exemplified in the papers presented. One described the potential production of attractive jewels from petroleum by way of styrene and polystyrene. Styrene can be made synthetically through the stage of ethyl benzene and is also available as a condensation product in gas mains. Ethyl benzene has been found in certain types of petroleum and may also be available from coal-tar distillates. Styrene may also be formed as a cracking product of certain gaseous hydrocarbons available from petroleum and natural gas. As the commercial importance of polystyrene as a plastic and as a resin for the formulation of coating materials continues to grow, the byproducts from which it is made will assume new significance to the natural gas and petroleum industries.

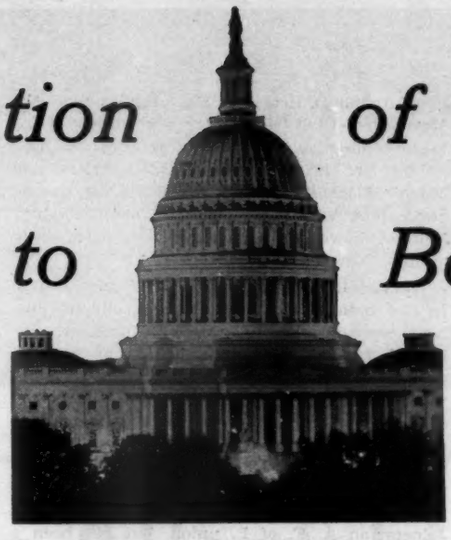
Equally interesting and practicable was the announcement that the way has been opened to produce phenolic compounds from petroleum fractions on a very large scale in this country, making domestic supplies more easily available, according to E. Field, F. H. Demster, and G. E. Tilson, of Standard Oil Co. of California.

Until recently, disinfectants of the carbolic acid type which contain chemical compounds known as phenols were obtained directly from the distillation products of coal tar.

It has been demonstrated that not only have phenolic compounds from petroleum proved to be at least the equal of phenols from coal-tar sources in their general properties and chemical reactions, but some of them prove superior when tested by well-known biological tests.

These newly developed phenolic compounds are usually obtained from petroleum fractions which have been made by cracking processes; the phenols are extracted by means of aqueous caustic soda solution, which extract is then neutralized with acid causing the crude phenols to rise to the top. This crude product is then separated and purified.

Administration of Wagner Act Is Likely to Be Amended



By HENRY D. RALPH

WASHINGTON, D. C., Sept. 11. — Strikes and labor disturbances probably will get worse before they get better, but the long-term outlook is for legislative and administrative action to improve industrial employe relations in many respects.

Factors in the immediate future which may increase labor troubles are an expected moderate increase in industrial activity, the continued feud between rival union organizations, and the attempt of all unions to get the largest possible membership before any radical change in the Wagner Act puts a curb on organizing activities. Business activity was already on the increase before the outbreak of the war, and every period of rising production is accompanied by greater union efforts for higher wages and shorter hours; but the expected increase in living costs which may result from a prolonged war has already brought demands from some unions for contracts providing a sliding wage scale based on living costs. All efforts of the administration to bring about a truce between the C.I.O. and the A. F. of L. have met with failure, and the membership campaigns of these rival union groups will continue to bring about disturbances which in most cases will be beyond the power of employers to prevent.

In the longer view, however, there is every encouragement for the belief that labor disputes will diminish, because of the virtual certainty that the basic provisions of the Wagner Act and its method of administration by the National Labor Relations Board will be changed and the strong probability that the N.L.R.B. will be supplemented by an extended federal mediation or concilliation service.

Although the Wagner Act was passed with the claim that it would reduce labor disputes, strikes have been more numerous since its enactment and validation by the courts than at any time in our history, and there is no prospect for any change in the situation unless the law is changed or until all industry is organized by a single group of affiliated unions. This is because the act is written and applied in a way to give union organizers a free hand and to encourage unions to strike to obtain recognition or to show their strength.

THE extensive hearings on the Wagner Act in the last session of Congress by both House and Senate labor committees showed rather clearly that the act could be amended to promote more genuine collective bargaining and reduce the number of strikes caused by union rivalries and other conditions not directly related to wages and working conditions; but not to interfere with the rights of workers to collective bargaining nor remove just restrictions on employer interference with these rights. The drive for amendments of this type will be continued and probably will be successful next year, aided by the investigation of the N.L.R.B. by the special House committee appointed on the closing day of the last session.

A few of the charges against the N.L.R.B. have been met in part by changes in the rules of procedure recently made by the board itself, but these changes are not sufficiently extensive to remove the causes of criticism by employers or by the A. F. of L. The latter continues to charge that the board is biased against it and in favor of the C.I.O., and while this is denied by the board and the bias has not been proved to exist as a general policy, the A. F. of L. still seeks a number of amendments to the basic law.

The most important change made by the board is the granting of permission for employers to petition for an election among employes to determine the appropriate bargaining unit. This permission is implied in the act but had been denild by the board, with the result that in many instances an employer was confronted with recognition demands by rival unions but was without means of determining which had the majority. The new rule appears to meet one of the most common complaints against the N.L.R.B.; but critics point out its language is so restricted that in practice an employer may petition for an election only under certain circumstances. The new rule permits employers to petition the board in representation cases where two or more labor organizations are claiming a majority but neither petitions the board for certification.

EMPLOYER organizations which have been critical of the N.L.R.B. maintain this change in the rules is due solely to political pressure and is of little legal significance because there is no assurance employers will be able to get prompt and favorable action on petitions for election; and they point out that independent unions not affiliated with A. F. of L. or C.I.O. have had great difficulty in getting the N.L.R.B. to certify them as collective bargaining units. The rule provides that the board will not consider an employer's petition for an election among his employes unless each labor organization involved in the controversy claims to represent a majority of the employes; although when a labor organization petitions for an election it need not claim a majority. Critics maintain this will not give employers relief in most cases, since if a union considered it had a majority it probably would ask for an election itself, while in many bitter disputes neither rival union claims a majority.

Some of the other changes in its rules are described by the board as follows:

"A new rule increases from 5 to 10 days the minimum period between the issuance of a complaint of unfair labor practice and the date of a hearing upon the complaint.

"The 10-day period allowed under the old rules to file exceptions to intermediate reports of trial examiners has been increased to 20 days, with a further extension still permissible upon a showing of proper cause.

"Under the new rules, if any objection is made to the conduct of an election, the regional director will investigate and make a report which will be served on the parties and become a part of the record.

"Civil officials, as well as notaries public and board agents, will be available for those wishing to swear charges.

"Labor organizations who appeal to the board for review of dismissal charges by a regional director shall file a complete statement of the facts with the board.

"Employer rights to amend answers to complaints have been liberalized.

"The regional director may grant an application for a subpena or may refer it to the trial examiner who has similar rights.

"The former power of the regional director to appoint trial examiners is withdrawn, the designation now remaining with the board or the chief trial examiner.

"The filing of briefs or written statements at the conclusion of a hearing is made a matter of right and no longer subject to permission of the trial examiner.

"Contemptuous conduct on the part of a witness need not exclude his testimony, discretion for retaining or striking the testimony now being rested with the trial examiner."

A few other additions to the rules put in writing what has already been the usual practice of the board. While these changes appear to remove some of the causes for complaints of arbitrary action on the part of board agents and trial examiners, critics are skeptical that much benefit will result, because of their contention it is the arbitrary and biased attitude of N.L.R.B. employes rather than the text of the rules themselves which has caused most of the trouble.

The board has also made a number of changes in policy not covered by the revision of its rules in an attempt to meet criticisms from both employers and labor unions. For example, it has decided not to make any further certifications of collective bargaining units based simply on examination of membership cards, but will call an election in every case to determine whether or not a majority of the employes wishes to be represented by the union seeking recognition; this practice will be followed even when there is only one union concerned. It has been charged that in some cases racketeering methods have been used to induce employes to sign union cards.

IT is obvious that Dr. W. M. Leiserson, recently appointed to the N.L.R.B., is attempting to eliminate some of the causes of criticism by making its practice and policy conform more nearly with that of the National (Railway) Mediation Board of which he was formerly chairman. His efforts, however, are not expected to be sufficient to prevent a rather drastice revision of the Wagner Act at the next regular session of Congress. Opponents of the act have built up a pretty good case for "inequality" of the act in its application to unions and to employers, and will not be satisfied with concilitary concessions made by the board itself. There is also a growing demand that Congress designate the "appropriate unit" for

collective bargaining, instead of leaving this to the discretion of the board. It has been charged, particularly by the A. F. of L., that the board has used its power to favor one union over another by variously designating craft unions, plant units, company-wide units including several plants, and even regional units including more than one company.

Proposals for expanding the federal conciliation service in order to mediate labor disputes have been made by both Dr. Leiserson and Frances Perkins, secretary of labor, and the suggestion is being received with much interest at the Capitol, both because of its merits and because it may offer a means of bringing about industrial peace without altering the basic provisions of the Wagner Act.

The Wagner Act simply sets forth the rights of employes to organize and bargain collectively and the duties of employers in dealing with labor unions. The theory was that organized employes could settle all grievances through collective bargaining without government intervention beyond a guarantee of the machinery for collective bargaining.

Dr. Leiserson holds the view that general principles of mediation used in the railroad industry could and should be applied to industry generally. He points out that the Wagner Act is negative in its approach in that it simply defines certain rights of employes and duties of employers; whereas the railway labor laws are positive in that they provide mediation machinery for interpreting and enforcing the provisions of contracts made through collective bargaining. He feels that a separate federal agency for labor mediation would go far toward reducing the number of strikes by relieving the N.L.R.B. of many complaints which should not come within its jurisdiction and which it is not qualified to handle. The present conciliation service of the Department of Labor, while having an excellent record for settling labor disputes, exists with scant authority of law, is limited in its size, and can function only when invited by both parties to the dispute.

The House investigation of the N.L.R.B. is expected to be thorough and impartial. Hearings are scheduled to start shortly, and instead of being a general fishing expedition, the investigation should be aimed directly at the many charges that the board and its employes have been biased and arbitrary, and that the administration of the Wagner Act has tended to increase rather than decrease the causes of labor disputes. One reason for this is the fact that the special committee starts out with the body of testimony built up by the months of hearings before the Senate and House labor committees on bills to amend the Wagner Act, and during these hearings the charges were made and answered by dozens of witnesses. By a careful study of these hearings the special committee can determine the real matters of dispute and the methods of arriving at the facts at issue.

The personnel of this special House investigating committee was carefully selected by Speaker Bankhead after much study, and there have been no objections to his selection from any quarter. By virtue of congressional custom the chairman is Rep. Howard W. Smith of Virginia, who introduced the resolution calling for the investigation. Mr. Smith is an anti-New Deal Democrat who withstood an attempted primary "purge," and while he has been a consistent critic of the N.L.R.B. and is regarded by labor organizations as "unfriendly," he has promised an impartial investigation. The chairman and all other members of the committee are lawyers, and several have had experience as judges or prosecutors.

The other two Democrats on the committee are Reps. Arthur D. Healey of Massachusetts and Abe Murdock of Utah. Mr. Healey is co-author of the Walsh-Healey government contracts act, and both he and Mr. Murdock are regarded as friendly to organized labor and both voted against the investigation which they are to help conduct. Neither, however, is considered a particularly militant New Dealer.

The two Republicans are Reps. Charles A. Halleck of Indiana and Harry N. Routzohn of Ohio, both comparatively unknown in Congress. Mr. Halleck voted for an investigation of sit-down strikes and for this investigation of N.L.R.B., voted against the wage-and-hour law, and helped draft the transportation bill putting water carriers under the control of the Interstate Commerce Commission. Mr. Routzohn is serving his first term in Congress. For some 10 years he was attorney for the Botherhood of Carpenters and Joiners, an A. F. of L. union, but has been a critic of the New Deal and voted for the N.L.R.B. investigation, and is expected to support at least those changes of the Wagner Act which the A. F. of L. has been advocating.

The term of the Supreme Court which opens in October will have on its calendar at least a dozen cases involving the interpretation of the Wagner Act as applied by the N.L.R.B., some of the cases brought by the board seeking enforcement orders, and others appeals by employers from the board's orders. These cases do not involve the constitutionality of the basic provisions of the act, but their decision will go far in determining the scope of the board's authority and in interpreting the exact meaning of the act as applied to various labor situations.

War and Oil

(Continued from Page 27)

to the Caribbean, is being completed and oil shipments are scheduled to start soon.

All of these pending and possible increases in Venezuela and other South American countries are small as we think of oil supplies in this country, and will be of minor importance in world markets the rest of this year.

Look to United States

We thus, by the process of elimination, return to our own shores to take care of any sizable increase in world oil needs.

It is not necessary to explain in detail the status of the oil industry in this country. The surplus of crude oil and products exports over imports from this country the first half of this year was 425,000 bbl. daily. We are in position to expand these exports quickly should the need arise.

No one has a complete picture of what the war means in the immediate future in relation to the petroleum exports of this country. The war uses of petroleum by countries at war and neutrals who may participate later, will increase. A possible immediate offset to these increases is the fact that the three warring nations and certain neutrals are rationing the consumption of petroleum products.

Right now there is a curtailment in world transportation by boat, a large outlet for heavy fuel oil and other products in normal times.

There is the question, previously indicated, as to whether additional entries in the war arena will eventually not complicate the production and transportation of oil in Asiatic countries. In the past, belligerents lacking man power have been inclined to center their activities on the production of war machinery, resulting in a contraction of other industrial activities.

Much, of course, will depend on the conduct of this country's neutrality and whether it eventually results in our participation in the war. There are other "ifs" in the present war situation, the answer to which will require time.

We feel confident that owing to conditions within this country, as well as those outside, 1940 will bring a new record in demand for petroleum products. All the key figures at this time point to that development.

We have just passed through a crisis in regard to crude-oil prices, brought about largely through the weaknesses in our system of applying conservation regulations. Our statistical situation has since improved and there have been other favorable developments in our domestic situations predating the war. Our industry has not had the profits to which it is entitled and must have. We are hopeful that conditions will shortly bring about slightly higher prices for the products it refines and markets. There is no danger of overnight advances of which we have heard so much in certain other industries within the past few days.

Petroleum in this country as an industry has never been guilty of profiteering, notwithstanding a comment to the contrary recently by a high cabinet official.

Not a War Industry

I want to close with this final thought because there is danger that in the excitement of the near future, its significance may be overlooked.

Petroleum is not a war industry.

The servicing of wars has always represented but a small fraction of the total petroleum demand. War revenues are an insignificant part of the whole. The great increases in demand for petroleum have come from the peaceful pursuits of mankind.

Consumption of petroleum greatly increased during the last war but that expansion was due largely to the gains in domestic demand within this country, not through the enlarged requirements of land and water forces at war.

This year the domestic demands for petroleum will increase at least 80,000,000 bbl. in this country. That gain is within 15 per cent of what the entire consumption of the United Kingdom will be and 75 per cent as great as the probable 1939 requirements of France and Germany combined.

The 80,000,000 bbl. is the increased petroleum needs of 130,000,000 people engaged in peaceful occupations who require 50 per cent more oil than all the rest of the world combined. Its significance is indicated in the fact that last year New York State consumed practically as much gasoline as the British Isles; California far more than France and Pennsylvania as much as Germany. Oklahoma's gasoline consumption this year will be one-third as great as that of Germany including Austria and the Czechs.

Our consumption of petroleum per capita is 4 times that of the United Kingdom; 6½ times that of France; 9 times that of Russia; 11 times that of Germany; 80 times that of Poland.

This indicates how important it is that we keep our domestic economy headed in the right direction. It will have more to do with the trends in our industry this year and next than the probable developments elsewhere.

Let us hope that the peoples of the belligerents and their neighbors can shortly get away permanently from the shadows of war and war preparation and center their industrial energies on those activities which have made our people the largest consumers of petroleum. Therein lies the possibility of a sustained boom for the oil industry.

Scene at hearing before Texas Railroad Commission, Austin, last Monday, during which allowable production of the East Texas field was increased to approximately 690,000 bbl. Hines Baker, attorney, Humble Oil & Refining Co., is addressing Col. E. O. Thompson, Lon Smith and Jerry Sadler, members of the Texas Railroad Commission, and John Taylor, chief supervisor Oil and Gas Division, Texas Railroad Commission

East Texas Allowable Increased

By NEIL WILLIAMS

AUSTIN, Tex., Sept. 11.—Over the formal protests of various individual companies, the Railroad Commission of Texas, following the state-wide proration hearing here Monday, ordered an increase in the allowable production of the East Texas field to approximately 690,000 bbl., exclusive of shutdown days, for the remainder of September and October. Allowable production of other fields will not be changed. Current allowable for East Texas is 523,909 bbl.

The East Texas order called for a 2-day shutdown of the field, effective September 12 and 13, for the purpose of taking bottom-hole pressure surveys. With these two days and the regular Saturday and Sunday shutdowns there will be a total of seven shutdown days the remainder of September, leaving only 12 producing days, which at 690,000 bbl. daily will make a total allowable production the remainder of the month of 8,280,000 bbl., a daily average for the 19 remaining calendar days of 435,790 bbl.

Allowable production for the first 11 days of the month, taking into consideration shutdown days, totaled 3,667,000 bbl., which will give a total allowable production for the month of 11,947,300 bbl., a daily average for the month of 398,243 bbl., or an increase of 24,243 bbl. in the daily average for the month as a whole, over the present figure.

During October, with 23 producing days, total allowable production will be 15,870,000 bbl., a daily average, based on calendar days, of 511,935 bbl., an increase of approximately 135,935 bbl. over the present average calendar-day production.

In attempting to conform with requirements imposed by recent court decisions, the order provides for a change in the basis of allocation. In the new allocation the marginal allowable (number of wells times 20 bbl.) plus the allowable shortage, is subtracted from total allowable of the field to give the proratable allowable production. The proratable allowable production then is allocated among the wells capable of producing more than the marginal allowable of 20 bbl., considering saturated acre-feet of sand, potential, and bottom-hole pressure. The well allowable for above-marginal wells will equal 20 bbl. plus acre-feet of saturated sand times potential times bottom-hole pressure divided by total saturated acre-feet of sand times potential times bottom pressure.

Formal protests to the issuance to the order were entered at the hearing by Stanolind Oil & Gas Co., Sinclair Prairie Oil Co., Selby Oil & Gas Co., Lewis Production Co., Rowan & Nichols, Humble Oil & Refining Co., and Mid-States Oil Corp. They attacked primarily the marginal allowable limitation of 20 bbl. in the order, which, they claimed, perpetuated existing inequalities in production allocation, which the courts had recently ruled against.

Question also was raised over the high total allowable of the field, which, it was claimed, might result in waste. This was emphasized in the protest of Humble Oil & Refining Co., filed by Hines Baker, counsel for the company. Mr. Baker listed three reasons for protesting the order: First, he claimed the high top allowable would result in rapid decline of bottom-hole pressure and consequent waste; second, that serious inequities would be created between the East Texas field and other fields by the East Texas increase; and, third, that the order would perpetuate existing inequalities within the East Texas field.

Might Be Contested

Intimation that the new order might be contested in the courts was given by Mr. Baker in answer to questioning by Jerry Sadler, member of the Railroad Commission. Mr. Sadler asked Mr. Baker concerning the increased production given Humble Oil & Refining Co. by the recent court decision, pointing out that this had taken the matter out of the courts.

"I'm not so sure that the matter has been taken out of the courts," Mr. Baker replied.

It was reported at the hearing that the allowable production for the state September 11 was 1,876,597 bbl., with East Texas allowable 523,909 bbl. on a 5-day production basis, the daily average production for a 7-day week would be 1,340,426 bbl. with East Texas allowable increased to 690,000 bbl. The current allowable would be 2,042,688 bbl., which with five producing days would average 1,459,063 bbl., as compared with the Bureau of Mines estimate of 1,408,300 bbl. for the month.

The commission announced the discontinuance of the practice of granting higher allowables for new discovery wells and new fields.

The original proposed new proration order, read by Mr. Sadler at the hearing, called for reductions in the total daily allowable for the state of 15 per cent below the Bureau of Mines estimate of consumptive demand for September, which is 1,408,300 bbl. daily. At the conclusion of the reading of the proposal, however, he declared that, due to changed conditions and to the fact the Bureau of Mines estimate had not taken into consideration certain stock reductions, he would not favor such a cut and recommended the increase in East Texas and maintenance of allowables in other fields. This was concurred in emphatically by Lon Smith, chairman of the commission, with Col. Ernest O. Thompson, the third member, remaining silent on the subject.

Stanolind Oil & Gas Co., represented by G. Condra and Guy Woodward, objected to the proposed new order with a protest against application of the marginal limitations. It was claimed the marginal well is unconstitutional, and the opinion was expressed that statutes providing for prevention of waste were paramount to the marginal-well statute. Stanolind recommended that the commission determine the quantity of recoverable oil under each lease and estimate the time necessary to produce this oil before the lease would be taken by water or the gas cap, and that the respective leases be given allowables in accordance to permit the recovery of that oil within the time estimated as the life of the lease.

Paul McDermott, Sinclair Prairie Oil Co., protested the order, claiming that it does not protect the wells on the west side, thus resulting in inequities in total recoverable oil. Colonel Thompson asked him about the possibility of shutting in all wells on the east side of the field until wells on the west side of the field could catch up on recoverable oil. Mr. McDermott answered that his company would be willing if all other leases similarly located would be shut in also.

It was brought out that inequity in total recoverable oil is being created by the eastward movement of oil in the reservoir, permitting east-side wells to produce more oil than the estimated oil in place. Many leases already have produced more than the original amount of oil in place which is constantly being replaced by the eastward movement of oil at the expense of wells to the west.

One of the highlights of the hearings was the appeal of Clint Small, general counsel of the newly organized Independent Oil Producers Equity Association, to the Railroad Commission not to lose sight of its duties to prevent waste. He pointed out that there is no law or court precedent that would require the Railroad Commission to issue an order that would create waste, and that if adherence to the marginal-well statute tended to create waste, the commission would be in its right to act, as it was not the intent of the legislature passing the marginal statute to do anything to cause waste. He cautioned the commission about increasing production in anticipation of possible increased demand because of the war.

Jack Blalock, oil attorney, Houston, expressed the opinion of another group at the hearing, upholding the marginal statute and the right of certain wells to a minimum allowance of 20 bbl. He commended the commission, with the opinion that the new East Texas order would meet every requirement of any court.

GOLDEN MEADOWS

(Continued from Page 25)

opposite direction from the townsite. It was drilled to a total depth of 10,250 ft. without any shows particularly encouraging except in the shallow sand, where it is making only a small amount of fluid, about 50 per cent of which is oil. It is being put on the pump.

Texas Co.'s No. 1 State-Catfish, about a mile northwest of the discovery well and about ½ mile northeast of No. 2 State-Catfish Lake producer, was abandoned as dry last March after drilling to 10,281 ft. Since, this company also has drilled another dry hole, No. 1 Louisiana Land & Exploration Co., about a mile northward from the discovery well. This well was drilled to 12,526 ft., and although numerous sands were encountered, attempts to complete were unsuccessful. Tests were made at more than 15 differen levels.

Further setbacks to productive potentialities have just been given by failure of Marr & Bristol's No. 1 Church, at the north end of the townsite, and Marr & Vaughn's No. 1 B.&D. unit, at the south end of the townsite, to get production. No. 1 Church was drilled to a total depth of 9,007 ft. without favorable showings except in the 2,600-ft. sand to which it had been plugged back to 2,652 ft. cementing 7-in. casing at 2,647 ft., and in which casing will be perforated in an attempt to test. No. 1 B.&D. unit, which has reached a total depth of 10,050 ft., has had only salt water with traces of oil. These wells are about a mile apart on opposite sides of the Bennett, Helis, and St. Marys townsite producers. In the vicinity of the Mar-Tex well, in the marshes just west and back of the townsite, a half dozen tests are drilling.

Texas Co.'s No. 2 L.L.&E. is a west offset to the Mar-Tex producer and is producing from the same sand. Drilled to a total depth of 8,120 ft., where 7-in. casing was cemented, it perforated casing at 7,930-50 ft., flowing initially at the rate of 177 bbl. through a quarter-inch choke. The Bennett Rebstock well, producing from a 5,300-ft. sand, is northwest of the townsite, a little over a half mile north of the above two wells. It drilled to a total depth of 8,504 ft., either failing to find or finding salt water in the sands below its present completion depth. Seven-inch casing was cemented at 5,368 ft. and perforated at 5,309-17 ft. The latter provides an important extension, opening the way for important new drilling.

Ten thousand-foot production has just been opened by Texas Co.'s No. 2 Louisiana Terre Co., about ¼ mile south of the Mar-Tex producer and about a mile east of No. 1 Louisiana Terre, the discovery well, and just south of the townsite. This well had sand at both 10,025-48 and 10,050-80 ft., drilling to a total depth of 10,089 ft. Texas Co.'s No. 1 Deramie, the most recent completion, located at the southwestern end of the townsite, is producing from the 7,900-ft. sand of the Mar-Tex well, making the third well in that sand. It had the sand at 7,927-37 ft., and flowed 390 bbl. daily through a 12/64-in. choke.

Prospects of another well in the 7,900-ft. sand are given in Texas Co.'s No. 1 Falgout Holding Co., just north of the Mar-Tex well west of the townsite. It found the sand at 7,895-35 ft. and has cemented 7-in. casing at 7,928 ft.

The Golden Meadows townsite proper consists of a long, narrow strip of high ground squeezed in between navigable Bayou La Fourche, on which it fronts, and the marshes, which encroach on the back or west side. The main street, which parallels the bayou, is the sole highway. Land ownership is in long, narrow strips extending from the bayou into the marshes, many strips being cut into small lots hardly large enough on which to set up a rig. A general congestion prevails with homes of inhabitants and business establishments crowded on the narrow stretch of high ground, much of which is confined to the single highway.

Lease rights to the bayou bed are held by William Helis and Danciger Oil & Refining Co. jointly. So far no drilling has been started in the bayou pending further development in the townsite and extension of production in the bayou. Drilling permits, however, already have been taken out for a line of wells paralleling the bank. Original development plans called for starting drilling in the bayou before now, but disappointing productivity and irregular conditions within the townsite delayed the work. The bayou drilling program called for a well spaced every 500 ft., although operators were prepared to carry out closer spacing should additional offsetting of the narrow town strips be necessary.

Acreage back of and adjoining the townsite to the west and south is held by Texas Co. in a large, single block extending into the marshes, covering Catfish Lake, a large, marshy, state-owned body of water. Texas Co., on whose block the discovery well, No. 1 Louisiana Terre, is located, has comparatively little acreage within the townsite proper. Tracts within the townsite and extending into the marshes to the edge of the Texas Co.'s block are held by small independents.

The Mar-Tex well, which started the townsite play, is at the west end of one of the townsite strips offsetting the Texas Co.'s block. It is in the immediate vicinity of this well that one of the largest concentrations of drilling activity is taking place, this being figured in by Texas Co., Frank W. Bennett Petroleum Corp., Pat Marr, and William Helis and Danciger Oil & Refining Co.

DEATHS

V. SEDGWICK, 81, of Tampa, Fla., former vice president of Galena Signal Oil Co., died September 11.

GEORGE S. WATSON, Jr., 24, of Houston, Tex., formerly of Dallas, died last week in Lubbock of injuries received in an automobile accident. Mr. Watson's father is vice president and general manager of the McEvoy Oil Well Equipment Co., of Houston.

LEONARD G. E. BIGNELL, 60, secretary of the Engineers Club of Tulsa, and also of the Mid-Continent petroleum division of the American Society of Mechanical Engineers, died suddenly in Tulsa, September 8. He had been in ill health for some time. He was born April 20, 1879, at Cobham, Surrey, near London, England, and was brought to this country when a small

boy. He was educated at the public schools and Manual Training High School of Denver and took special courses in chemistry, metallurgy and geology at the University of Utah, Texas School of Mines, and the University of Tulsa. He had been a member of the Tulsa Geological Society since 1922, of the American Institute of Mining and Metallurgical Engineers (serving for a time as chairman of the Mid-Continent section), and of the American Petroleum Institute. In his earlier years he was associated with Taylor & Brunton, engineers; Denver Engineering Works; Colorado Iron Works Co., all of Denver; Mine & Smelter Supply Co., of El Paso, Tex., and the Parkersburg Rig & Reel Co. in Tulsa. He became petroleum engineering editor of The Oil and Gas Journal in May, 1929, and resigned last spring to resume consulting work.

SANDOVAL

(Continued from Page 23)

mile to the east. This variance may represent either post-Devonian pre-Chattanooga erosion, or local conditions of porosity within the producing zone. The writers lean towards the former view, as the producing horizon in all wells thus far has been a brown dolomite, very soft and with unvarying porosity.

North-South Axis Indicated

There is at present 80 ft. of proven productive closure above the water table, with the probability that the top of the structure is from a quarter to a half mile south of the discovery well.

Fig. 2 is an isopach study of intervals between the No. 6 coal and the Benoist sand. This map was built from No. 6 coal data and Benoist-sand data as published on Pages 5 and 8 of Illinois Press Bulletin 10. The resulting isopach or convergence map shows both a regional thinning southward and a north-south axis of thinning. From this study the writers are led to the conclusion that the axis of the Devonian structure at Sandoval will be north-south.

WASSON-DENVER-BENNETT

(Continued from Page 26)

western part of the Bennett field to development. An offset test to No. 1 Brownfield was started immediately, as well as several other tests, and all found production.

The practice by major companies of farming out acreage to smaller operators for drilling has played an important part in the development. One of the largest operators is Aloco Oil Co. of Dallas, which acquired most of its acreage in Yoakum County in a large farmout deal with Texas Co. several months ago. Aloco acquired all of Texas Co.'s acreage in Yoakum County, together with 17 producing wells, total acreage amounting to 16,000 acres. About half of this was estimated at the time to have been proven or semiproven territory.

Royalty terms of the agreement compare closely with similar farmout deals in the field. Texas Co. is paid one-eighth override from wells that produce less than $1,600 revenue per month and one-fourth override when revenue exceeds that amount. When the property has been paid out, Texas Co. has the option of taking a half interest in operations or retaining a quarter override. Aloco plans to drill about 200 wells in the recently acquired acreage. Several other companies have farmed out tracts for similar development, the greater share being in the original Denver area.

As of the first of September 1939, the field contained a total of 398 wells, 43,000 proven acres, and an estimated oil reserve of 344,000,000 bbl. What will be the ultimate reserve of the field when it is fully defined and how much more it will expand before it is defined is conjectural. Final answers to these questions, of course, will depend on production practices, oil prices and results of future drilling.

International

Sumatra . .

Submarine Pipe Line For Petroleum Port

CONSIDERATION is being given to the construction of a submarine pipe line at the port of Lho Seumaweh, in Acheen Province, North Sumatra, by Nederlandsche Koloniale Petroleum Mij., provided exploration is successful in developing exportable quantities of crude oil. The company has been engaged in exploration work in the Lho Seumaweh district for several years and production has been found at several places. Reports are that 10 wells have been completed in the general district; but the total quantity of oil developed is insufficient to make export profitable up to the present.

About 5 years ago, the Government of the Netherland Indies decided not to grant petroleum concessions to any other concern than the three large oil companies operating in that country. The three companies are Bataafsche Petroleum Maatschappij, Royal Dutch-Shell subsidiary, the Nederlandsche Koloniale and Nederlandsche Pacific Petroleum Mij., Batavia, a subsidiary of Standard Oil Co. of California and Texas Co. and to a syndicate of three concerns, N.V. Nederlandsche Mij. voer Niew Guinea. It was decided that new concessions would be granted only as it was necessary for these concerns to maintain and operate their existing refineries in that country. As these refineries have hardly profited from issue of such concessions, the home government has now been requested to consider the question of issuing to these concerns further concession areas in the neighborhood of those under exploration or exploitation. The new areas requested by the companies are in North and South Sumatra and South and East Borneo.

Three deep wildcat tests are reported under way on the West Java block, an area granted to the Royal Dutch-Shell subsidiary at the end of last year. No indication of production has been reported so far in either of the three tests. Exploitation has been continued by the Shell subsidiary at Limau in the Palembang district of Sumatra, where the company was successful late in 1938 in discovering a new producing area. The estuary of the Moesi River has been dredged with the cooperation of the government and companies to permit full loaded tankers to enter and leave the port of Pladjoe.

A new 8-in. pipe line is under construction to serve the new Limau field extending 90 kl. from Prabamoelih to Pladjoe.

France . .

Natural Gas Discovery In Saint-Marcel Region

NATURAL gas production has been discovered in the region of Saint-Marcel, Department of Haute-Garonne, France, according to a report reaching this country through the U. S. Department of Commerce. Professors from the faculties of Strasbourg, Dijon, and Toulouse have been organized into a committee headed by M. Pineau, director of the Bureau of Carburants of the Ministry of Public Works, to investigate the prospect and to recommend a program of development.

After a visit to the well site the committee rec ommended a program of drilling at various points in the region and reported that the prospects for oil production warranted an intensive campaign. A drilling program to fully explore the oil possibilities of the region was to have been started this month.

Tankers . .

German Seamen Are Replaced on Vessels

AN immediate reaction of the European war situation in international petroleum affairs is the replacement of all German seamen of the oil tanker fleet of Panama Transport Co., a subsidiary of the Standard Oil Co. of New Jersey.

More than 300 German seamen have been replaced on the 23 tankers of the Panama company. The Germans were removed from the tankers when they put into New York Harbor during the past 2 weeks and are being maintained at com pany expense until they can be returned to Germany. Six of the company's tankers have not made port since the new policy was adopted but the German seamen aboard will be replaced as soon as they reach American or neutral ports.

Most of the Panama company's tankers are German-built and until 3 or 4 years ago were registered out of Danzig or German ports. All the tankers have been changed since to Panama registry.

Belgium . .

Drilling Under Way In Western Flanders

AT Leffinghe, in western Flanders Province, Belgium, near the Ostend to Thourout highway, important operations are under way for the discovery of petroleum.

Dominican Republic . .

Second Test Well Is Being Drilled

THE second test well on the Higuerito concession in the Dominican Republic, drilled by the Dominican Seaboard Oil Co., has reached a depth of approximately 1,500 ft. and will continue to a zone anticipated around 2,400 ft. The first test on Malleno dome in the concession, located approximately 60 miles northwest of Santo Domingo in the Province of Azua, was completed at 1,150 ft. for 300 bbl. of 24° A.P.I. crude per day. The production in this shallow well is believed to be coming from sand at approximately 475 ft. Currently the first well is being produced at the rate of 90 bbl. per day supplying fuel for the second drilling operation.

Derrick from the first well was skidded 200 ft. northwest. After exploring the zone anticipated at about 2,400 ft., operators may send a light rotary rig to the Dominican Republic to carry on exploitation of the shallow pay which yielded showings of oil at intervals from 400 to 700 ft.

Mexico . .

Closing of Outlets Is Congesting Terminals

TERMINATION of the routine shipments from Mexico to Germany has had the immediate effect of congesting Mexican oil terminals and storage facilities. This was indicated in reports wirelessed last week to the New York Times from its Mexico City bureau.

Mexican petroleum authorities claim that current production is at the rate of 3,750,000 bbl. monthly, and that stocks at the present time total 13,000,000 bbl. Calculation is made that a total of 15,000,000 bbl. of additional oil will be produced between now and the end of the year. Deducting Mexico's estimated internal consumption for the remainder of 1939 of 7,000,000 bbl., the country claims it will have an exportable surplus of more than 20,000,000 bbl. in the next 3½ months. Ramon Beteta, undersecretary of foreign relations, announced in Mexico last week that the country would sell its oil to nations "which deserve our sympathy."

Cancellation of the contract between Mexico and W. R. Davis of New York by which the latter was delivering Mexican oil almost exclusively to Germany was accepted as a bid by the republic for the business of supplying part of wartime petroleum requirements to Great Britain and France. The barter arrangement with Germany, which resulted unsatisfactorily for Mexico, is consequently considered discarded in favor of an effort to deal with France and England which are regarded in a position to pay cash for their petroleum.

The possibility of France and England buying Mexican petroleum for their war needs is not considered seriously unless Italy enters the hostilities and succeeds in closing the Mediterranean or making shipping via that route so hazardous as to halt deliveries from Iran, Iraq, and other Persian Gulf sources.

Mexico is estimated to have available storage for approximately 5,000,000 bbl. more oil, or a total of 18,000,000 bbl. which can be brought aboveground and made immediately available.

Conversations in New York oil circles last week held out the possibility that in the event of a heavy fuel oil shortage developing in the United States this Government may assume a more militant attitude toward Mexico over the oil expropriation issue. High officials in the U. S. Navy Department were reported to have expressed grave concern over the supply sources for heavy fuel oil open to this country in considering our state of preparedness at the time of the Munich conference. Since Mexican oil is ideally suited to production of heavy fuels, it is entirely possible that the Washington administration would assume a different attitude toward Mexico if the pressure for dense burning oils becomes more acute.

Pipe-Line Activity

Stanolind Long Lake Line Is Under Construction

ATHENS, Tex.—Stanolind Pipe Line Co. is reported planning the construction of a pipe line from the Cayuga pool to the Long Lake pool, both in Anderson County, eastern Texas. The company at present is building a line from its Bullock station near Mexia in Limestone County to the Cayuga pool. The line consists of 19 miles of 6-in. pipe and 16 miles of 8-in. pipe, costing nearly $200,000.

Pan American Pipe Line Co. is taking all the oil produced in the Cayuga pool except from the partnership leases of Tide Water Associated Oil Co. and Seaboard Oil Corp. The oil is offered as tendership to Tide Water. When the Stanolind line is completed, oil will be gathered by the Pan American and tendered to the Stanolind line.

Champlin to Extend Gasoline Pipe-Line System Into Iowa

Cimarron Valley Pipe Line Co., a subsidiary of Champlin Refining Co., will start laying immediately a 280-mile 6-in. all-welded gasoline pipe line from its present gasoline pipe-line terminal at Superior, Neb., to a point near Sioux City, Iowa. H. H. Champlin, president of both companies, expects the line to be in operation within the next 3 months.

Arrows show important points along Cimarron Pipe Line Co. gasoline system. Present system leads from the Enid, Okla., refinery of the Champlin Refining Co. to Superior, Neb. The system will be extended 280 miles to Sioux City, Iowa

The new line will permit the refinery to deliver gasoline by pipe line over an almost straight line from the 15,000-bbl. modern plant at Enid, Okla., to the strategic distribution point at Sioux City from which terminal the gasoline may be distributed by rail and truck into Iowa, Nebraska, Minnesota, the Dakotas, Colorado, and to other northern points.

The purchase of the right-of-way has not been completed, but a straight course between the two points will be followed as closely as practicable. The terminal at Superior will be the site of a new pumping station to serve the line and one other pumping station will probably be installed at a point between Superior and Sioux City. Deliveries of gasoline through the new line are expected to approximate 2,000 bbl. daily.

Smith Bros. Construction Co. Now C. S. Foreman Co.

The board of directors of Smith Brothers Construction Corp. have changed the name of the company to C. S. Foreman Co. Charles S. Foreman remains as president, and the change in no way alters the financial standing, ownership or organization of the company. General offices will continue at 841 New York Life Building, Kansas City, Mo.

At present this company is engaged in constructing a 16-in. gas transmission line for Northern Natural Gas Co., from Dakota City, Neb., to the Minnesota-Iowa state line.

Kentucky Natural Gas Corp. Permitted to Intervene

WASHINGTON, D. C.—The Federal Power Commission has granted an application of Kentucky Natural Gas Corp. asking permission to intervene in the proceeding whereby General Gas Pipe Line Corp. seeks commission authority to construct a natural-gas pipe line from Central Kentucky to Central Indiana.

At the same time the commission denied a number of other petitions to intervene but allowed the petitioners, mostly railroads and coal associations, to participate in the hearings to the extent of introducing relevant material evidence, making oral arguments and filing briefs.

In the case of Kentucky Natural Gas the commission said that the company alleges it now serves the territory sought to be served by General Gas and that the others had no such claim to recognition.

Northern Natural Uses Solid-Weld Construction

A feature of the construction of the 240 miles of 16-in. transmission line now in progress for Northern Natural Gas Co. is the fact that it is solid welded. The line extends from Sioux City, Iowa, to a point near Minneapolis, Minn. Each of the two contractors on the job is laying 120 miles. C. S. Foreman Co. has established headquarters for work on the project at Sioux City, Iowa; Truman-Smith Construction Co. has an office at Mankato, Minn.

General Gas Pipe Line Co. Kentucky-Indiana Line

WASHINGTON, D. C.—Albert Kalo, president of General Gas Pipe Line Corp. of Indianapolis, Ind., told the Federal Power Commission his company expected to sell 43,000,000 cu. ft. of natural gas in Indiana if it received authority to construct a pipe line from Kentucky.

Mr. Kalo said the corporation expected to buy the fuel at 10 cents a thousand but he learned later the figure discussed with producers was 12 cents.

Natural Gas News

Town's Gas Supply Shut Off by Closed Valve

MARSHALL, Tex.—Marshall consumers of natural gas woke up September 10 to find they were without gas and that the mains had been without gas since 11:45 p.m. Saturday.

As soon as the condition was discovered the United Gas Co. summoned all available to hunt the break and soon there were 100 men at the task, closing meters to avoid an explosion when the gas came back on.

The trouble finally was found to be a closed gate valve on a 10-in. main about 9 miles southwest. Just how the valve became closed was not discovered. The valve house had been broken open.

Hitchman Elected Chairman of Appalachian Meter School

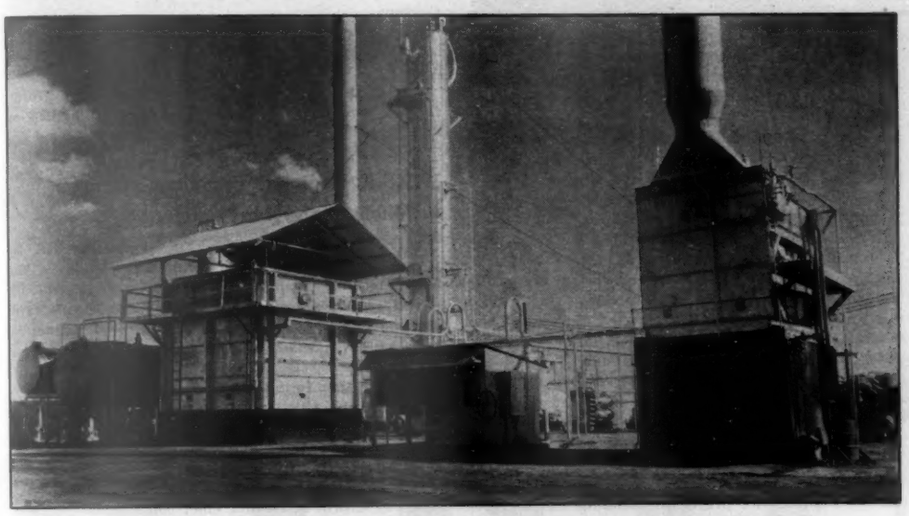
At the second annual Appalachian Gas Measurement Short Course held at the school of mines, West Virginia University, Morgantown, W. Va., August 21, Ray W. Hitchman, superintendent of gas measurement for the United Fuel Gas Co., Charleston, W. Va., was elected chairman of the school for the coming year.

This school, the first of its kind in the eastern United States and the third in the country, was voted most successful. Attended by over 400 gas men comprising representatives from 19 states, the District of Columbia, and Canada, the registrations showed a substantial increase over the 1938 meeting as well as a much wider geographic distribution. The interest in the papers read and discussed proved that the theme of the course, "Theory and Practice of the Measurement of Gases," commands the attention of the whole gas industry. In addition to the prepared papers and formal proceedings presented, the numerous informal and unreported seminar classes conducted continuously throughout the three days' meetings were of the utmost interest and importance.

The success of this school can be attributed largely to the efforts of Dr. C. E. Lawall, president of the university, assisted by Prof. G. R. Spindler and others of the school of mines, H. J. Wagner, the retiring chairman, and B. P. Stockwell, engineers of the Public Service Commission, together with the executives and engineers of the utilities and gas equipment manufacturers.

RAY W. HITCHMAN

Refinery Expansion



COSDEN OPERATING NEW NORTH TEXAS REFINERY

Cosden Petroleum Corp.'s combination rock-pressure natural-gasoline plant and refinery recently placed in operation 5 miles southeast of Graham, Tex. The skimming plant has a daily crude-charging capacity of 2,500 bbl. and the natural-gasoline plant 5,000,000 cu. ft. gas capacity. Natural-gasoline fractions are extracted from the gas by passing it through an absorber countercurrent to the fresh-crude charge.

●

Kansas Oil Rate Reduction Becomes Effective

The reduction in petroleum freight rates which has gone into effect on Kansas intrastate rail shipments is looked upon as probable forerunner of other Mid-Continent field oil-rate revisions and possibly a general scaling down of the southwestern rate structure.

The reduction averages around 35 per cent and is said to be so sharp as to eliminate the advantage enjoyed by truckers of gasoline, which in Kansas and some other nearby states has been built up into a large industry in its own right.

Protests of various trucking groups against the rate revision were denied by the Kansas Corporation Commission which authorized the changes, but the commission has agreed to review the operation of the new rates after a month's experience with them.

Advance in Octane Rating Considered

The "gasoline pipe-line group" of major refiners serving the central market with gasoline by pipe line from the Mid-Continent field are reported ready to make another slight increase in octane rating of their delivered regular-grade products to a level of 73½-74 octane number. No decision has been announced on such action, but it is said leading members of the group of eight large majors favor the move.

Present rating of house-brand gasoline of the group is reported to be somewhat over 72.

Great Lakes Pipe Line Co.'s line, running from southwestern refining points to central consuming points, has a capacity of approximately 50,000 bbl. a day. It is owned by eight companies, largest interest being held by Continental Oil Co. Others: Mid-Continent, Skelly, Texas, Pure, Phillips, Cities Service and Sinclair.

In addition, Phillips Petroleum Co. has an 800-mile gasoline line from Texas Panhandle to St. Louis and is contemplating an extension of it to Chicago.

Samples recently gathered on an extensive scale throughout the Middle West are said to show octane ratings at the service station tending a shade higher. Tests by one refiner's laboratory on 150 samples from Wisconsin were said to have shown major-company gasoline ratings running quite uniform, nonmajors highly variable. The latters' third-grade ratings were reported ranging 50 to 65. Major company premium gasoline ranged 29 to 80, with one at 81. All samples of major company regular gasoline except one tested over 72, and all but one under 73.5.

Fulton Buys Plant At Havre, Mont.

W. M. Fulton, operator in northern Montana, will find an outlet for his shut-in production in the Pondera and Kevin-Sunburst fields through the purchase of the Havre Refining Co.'s skimming plant at Havre, Mont. The plant has a capacity of 500 bbl. per day. The products will continue to be marketed through the D. O. Mecklenberg string of service stations. Fulton has contracted the fuel oil to the Great Northern Railway.

Mathews Refinery Starts Operation

ST. LOUIS, Mo.—With test runs completed, an independent refinery, the Matthews Refining Co., has started operating in regular production with crude oil from the Lake Centralia-Salem field in Illinois.

The company is headed by H. G. Matthews, formerly secretary-treasurer of the Centralia Refining Co. of Centralia, Ill.

The refinery has a daily capacity of about 4,000 bbl.

To Build Refinery at Grand Haven, Mich.

SAGINAW, Mich.—Six acres in northwest Grand Haven, Mich., has been leased from the Grand Trunk Railway by General Refining Co., formerly of Alma, Mich., as a site for erection of a skimming plant with a daily capacity of 500 bbl. of crude oil. John Ryan and associates is incorporating the firm for $100,000. The plant is to be ready in October. Construction culminates a fight in which property owners attempted to prevent the project on the contention it would be a public nuisance. The city issued a permit, citing a Supreme Court decision that in itself a refinery is not a nuisance.

Imperial Making Calgary Plant Second Largest in Canada

CALGARY, Alta.—Completion of new additions to the Imperial Oil, Ltd., refinery at East Calgary is expected by the end of the year. The new plant, costing approximately $1,750,000, will make the Calgary refinery the second largest in Canada.

Atlas Properties Will Be Sold at Shreveport

The refinery, pipe line, pump stations and Shreveport office building of the Atlas Pipe Line Corp. will be sold at public auction in Shreveport on September 19. The company has been operating under a receivership for several weeks.

Plant to Be Built In Alberta

LACOMBE, Alta.—Direct Oil Refineries, Ltd., is planning the erection here of a small local refinery of 500 gal. capacity to serve the immediate territory. Construction will be started this fall, the plant to be in operation by next spring.

Tank-Wagon Changes

Standard Oil Co. of New Jersey on September 12 made a general gasoline tank-car price advance in New Jersey of seven-tenths of a cent per gallon and advances ranging from four-tenths of a cent to 1.9 cents in tank-wagon and minimum retail prices. In northern New Jersey tank-wagon prices were raised four-tenths of a cent and minimum retail prices seven-tenths of a cent per gallon. In southern New Jersey tank-wagon prices were raised a half cent and retail prices a cent per gallon. In the Phillipsburg area tank-wagon prices were advanced a cent and retail prices 1.9 cents per gallon. The new state-wide prices for regular, exclusive of taxes, are 7.6 cents to the consumer tank-car trade; 8.1 cents net to undivided dealers, and 11.9 cents minimum retail. Effective the same date, Standard of Louisiana made a general advance of a half cent per gallon throughout its marketing area of Louisiana, Arkansas, and Tennessee on tank-car and tank-wagon deliveries.

Natural Gasoline

Contract Let for Recycling Plant in Rincon Field

W. R. Davis & Co. of New York and Houston, Tex., will let contract in the near future for the construction of a recycling plant in the Rincon field, Starr County, Texas. The announcement was made following the purchase of approximately 6,000 acres in the field from Transwestern Oil Co. and the D.D. Oil Co. The plant will have a capacity of 60,000,000 cu. ft. of gas per day. The company plans to drill approximately 20 wells, 10 of which will be drilled to the 5,600-ft. gas sand and others to the 4,200-ft. oil sand.

Phillips Builds Gasoline Plant at Jal, N. M.

ODESSA, Tex.—District offices of the Phillips Petroleum Co. announced work started on a new gasoline plant 2 miles northeast of Jal, N. M. The capacity will be 40,000,000 cu. ft. of gas a day.

Hope Natural to Move

Headquarters of the Hope Natural Gas Co., principal wholesale supplier of Peoples Natural Gas Co., will be moved from Pittsburgh to Clarksburg, W. Va., next spring, Pres. L. L. Tonkin has announced.

PROGRAMS AND MEETINGS

A.G.A. Annual Meeting To Have Wide Program

NEW YORK.—A program of wide appeal has been prepared for the general sessions of the American Gas Association which will hold its annual meeting in New York October 9-12. The program committee is headed by George F. Mitchell, president, Peoples Gas Light & Coke Co., Chicago. Three morning sessions will be held beginning Tuesday of convention week.

Conrad N. Lauer, president of the American Gas Association and president of Philadelphia Gas Works Co., will open the first general session with an address on the state of the industry. A featured speaker at the first meeting will be Thomas Henry Sanders, professor of accounting in the graduate school of business administration, Harvard University, who will speak on "Realty in Accounting."

An important part of the general sessions program will be devoted to advertising. James F. Pollard, president, Seattle Gas Co., will speak on "A Rock-Ribbed Foundation for Gas Industry Development." A. F. Rice, manager of market development of the Southern California Gas Co., will make a forward-looking talk on "The Sales Outlook."

Switching to technical subjects, the convention will hear Herman Russell, president of Rochester Gas & Electric Corp., and past president of the American Gas Association. Mr. Russell will point out the technical improvements made recently in methods of gas manufacture and distribution—natural and manufactured—and show how important these have been in lowering costs.

The increasing importance of industrial and commercial uses of gas will be discussed by an executive of a gas company which has done an outstanding job.

A notable part of the program will be presentation of association awards in recognition of exceptional achievement. These include the Charles A. Munroe Award, American Gas Association Meritorious Service Medal, the Beal Medal and McCarter Awards.

The Natural Gas Section, under the chairmanship of Thomas R. Weymouth, vice president of Columbia Gas & Electric Corp., New York, has arranged a most interesting program for Monday, October 9. The principal feature is a public relations forum under the leadership of B. C. Adams, vice president, Gas Service Co., Kansas City, Mo. E. M. Tharp, vice president and general manager, Ohio Fuel Gas Co., Columbus, Ohio; R. E. Fisher, vice president, Pacific Gas & Electric Co., San Francisco, Calif.; and Charles Evans, Arkansas Power & Light Co., Pine Bluff, Ark., will participate.

The program for the Natural Gas Section follows:

Monday, October 9, 10 a.m.: Presiding, Thomas R. Weymouth, chairman, Natural Gas Section, American Gas Association; vice president, Columbia Gas & Electric Corp., New York.

Public relations forum: B. C. Adams, leader, vice president, Gas Service Co., Kansas City, Mo.

Subjects: The Golden Rule in Business, Mr. Adams.

Analyze, Organize and Deputize, E. M. Tharp, vice president and general manager, Ohio Fuel Gas Co., Columbus, Ohio.

Humanizing an Organization, R. E. Fisher, vice president, Pacific Gas & Electric Co., San Francisco, Calif.

Good Will, a Priceless Asset, Charles Evans, Arkansas Power & Light Co., Pine Bluff, Ark.

The program for the Technical Section follows:

Tuesday, October 10, 2 p.m.: Chairman's opening remarks, F. M. Goodwin, Boston Consolidated Gas Co., Boston, Mass.

Report of nominating committee, J. V. Postles, chairman, Philadelphia Gas Works Co., Philadelphia, Pa.

Potentialities of Future Production Costs, L. J. Willien, Public Utility Engineering & Service Corp., Chicago.

Load Factors and Increment Costs in Transmission and Distribution of Gas, E. L. Fischer, United Light & Power Service Co., Davenport, Iowa.

Gas at the Fairs, C. S. Goldsmith, Brooklyn Union Gas Co., Brooklyn, N. Y., and R. S. Fuller, Pacific Gas & Electric Co., San Francisco, Calif.

W.P.R.A. Regional Technical Meetings In Wichita and Shreveport

Various phases of refining developments will be treated in the two regional technical meetings of the manufacturing committee of the Western Petroleum Refiners Association to be held in Wichita, Kans., and Shreveport, La., next month, according to the announcement by L. D. Mann, chairman of the manufacturing committee.

The Wichita meeting has been scheduled for October 5, 10 a.m., at the Allis Hotel, and the Shreveport meeting will be October 27, 10 a.m., at the Washington-Youree Hotel. The following subjects will be discussed:

Wichita, Kans., October 5:

"New Developments in Burners and Their Application," by Edwin L. Dennis, chief combustion engineer, Coppus Engineering Co., Worcester, Mass.

"Fuels and Lubricants for Farm Tractors," by C. G. Krieger, agricultural engineer, Ethyl Gasoline Corp., Detroit, Mich.

"Catalysis in Oil Refining," by Universal Oil Products Co., Chicago.

Shreveport, La., October 27:

"Inhibitors for Cracked and Polymerized Gasolines," by W. W. Scheumann, Cities Service Oil Co., Tulsa.

"Copper Treating of Petroleum Products," by Charles Wirth, Universal Oil Products Co., Chicago.

CALENDAR OF EVENTS

September

AMERICAN SOCIETY OF PHOTOGRAMMETRY, Plaza Hotel, San Antonio, Tex., September 26-27.

WEST VIRGINIA OIL AND NATURAL GAS ASSOCIATION, annual meeting, Charleston, September 27-28.

SOCIETY OF AUTOMOTIVE ENGINEERS, Hotel Schoeder, Milwaukee, Wis., September 28-29.

October

NATIONAL LUBRICATING GREASE INSTITUTE, Stevens Hotel, Chicago, October 2-3.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Galveston, Tex., October 5-7.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Allis Hotel, Wichita, Kans., October 5.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION meeting, Houston, Tex., October 5-7.

AMERICAN GAS ASSOCIATION, annual convention, New York, October 9-16.

NATIONAL TAX CONFERENCE, Palace Hotel, San Francisco, Calif., October 16.

SOCIETY OF AUTOMOTIVE ENGINEERS, annual dinner, Hotel Pennsylvania, New York, October 16.

NATIONAL STRIPPER WELL ASSOCIATION, annual meeting, Fort Worth, Tex., Blackstone Hotel, October 17.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, tenth annual meeting, Fort Worth, Tex., October 18-20.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Los Angeles, Calif., October 19-20.

WEST VIRGINIA PETROLEUM ASSOCIATION, Hotel Daniel Boone, Charleston, W. Va., October 25.

COLORADO PETROLEUM INDUSTRIES COMMITTEE, annual convention, Shirley-Savoy Hotel, Denver, Colo., October 17.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Washington-Youree Hotel, Shreveport, La., October 27.

November

SOCIETY OF AUTOMOTIVE ENGINEERS, fuels and lubricants meeting, Mayo Hotel, Tulsa, November 2-3.

PETROLEUM FLUID METER CONFERENCE, under auspices of A.S.M.E. and College of Engineering, Oklahoma University, at Norman, Okla., November 2, 3, 4.

NATIONAL MOTOR TRUCK SHOW, Navy pier, Chicago, November 8-16.

AMERICAN PETROLEUM INSTITUTE, twentieth annual meeting, Stevens Hotel, Chicago, November 13-17.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Providence, R. I., November 15-17.

CALIFORNIA NATURAL GASOLINE ASSOCIATION, annual fall meeting, Los Angeles, Calif., November 17.

December

WEST CENTRAL TEXAS OIL AND GAS ASSOCIATION, Abilene, Tex., December.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Philadelphia, Pa., December 4-7.

February 1940

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, New York, February 12-15.

April

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, twenty-fifth annual meeting, Stevens Hotel, Chicago, April 10-12.

AMERICAN PETROLEUM INSTITUTE, eastern district, Division of Production, Columbus, Ohio, April 11-12.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, April 18-19.

May

NATURAL GASOLINE ASSOCIATION OF AMERICA, annual convention, Hotel Tulsa, Tulsa, May 15-17.

INTERNATIONAL PETROLEUM EXPOSITION, Tulsa, May 18-25.

June

THIRD WORLD PETROLEUM CONGRESS, Berlin, Germany, June 9-15.

Building roads has become a part of the engineer's duties in developing the Illinois oil fields. Here is a sample of the conditions existing at many locations. This scene is near St. Elmo and the road leads to properties of the Carter Oil Co. Lack of roads, the high cost of building new ones and the prolonged wet condition of the basin area have slowed the development of the Illinois fields

ENGINEERING & OPERATING

SEPTEMBER 14, 1939

EDWIN B. COX *JAKE L. HAMON*
Whose Duval County, Texas, properties are discussed

Electrically Driven Central Generating of Texas Leases

By J. C. SLONNEGER
Assistant Chief Engineer, Continental Supply Co.

THE combination of electrically driven geared powers and a central generating plant is unique in the oil industry. The first installation of this character is the property of Cox & Hamon on their several leases in Duval County, Texas, and differs in its general design from the usual central generating plant for oil-well pumping. In this design an effort was made to take every advantage offered by central generating-plant pumping and to reduce to a minimum the difficulties arising from oil-well loads.

The problem was to pump 77 wells, 2,700 to 2,850 ft. in depth, varying in output from 60 bbl. to 200 bbl. of fluid per day in a field which promises long life but which may exhaust its gas supply. Furthermore, it was desirable to keep the initial power-plant investment at a minimum and provide for its orderly expansion, so that in the entire life of the field the power plant would never be out of proportion to the power needs.

Obviously, the production requirements were within the capacity of geared powers, and since geared powers have a low investment cost per well they were chosen. In all, there are seven geared powers of 250,000 in.-lb. capacity, each powered with 75-hp. electric motors, and a four-well hookup with a 140,000-in-lb. capacity gear reducer powered with a 40-25-15-hp. electric motor.

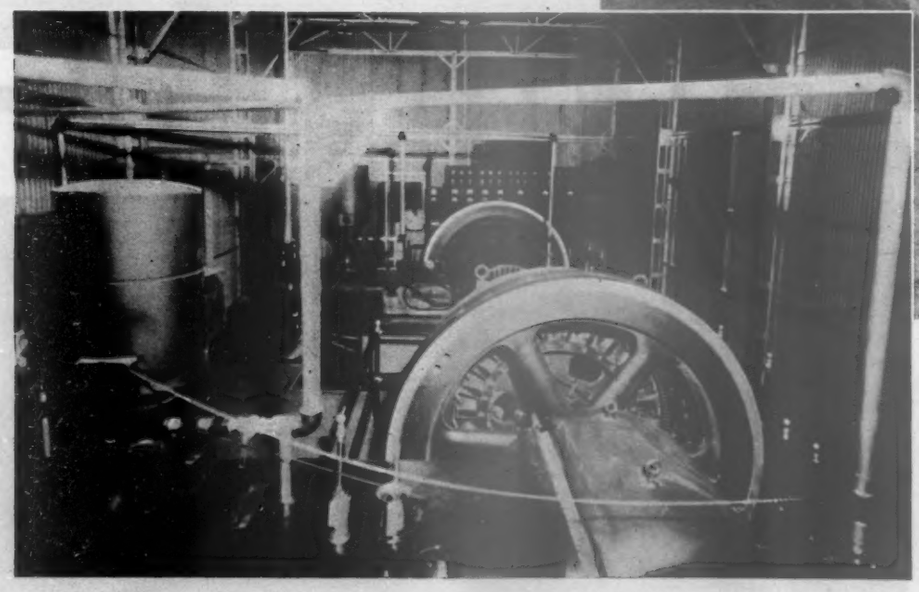


Fig. 1—Construction view of a two-cycle engine and generator is shown followed by (Fig. 2) an interior view of an operating station. The exterior is shown in the lower right corner (Fig. 3).

During the early history of the usual lease, the load imposed on the electric motors will of necessity be quite small. A small power-generating plant can handle this light load provided it is designed to meet the exacting conditions of that load.

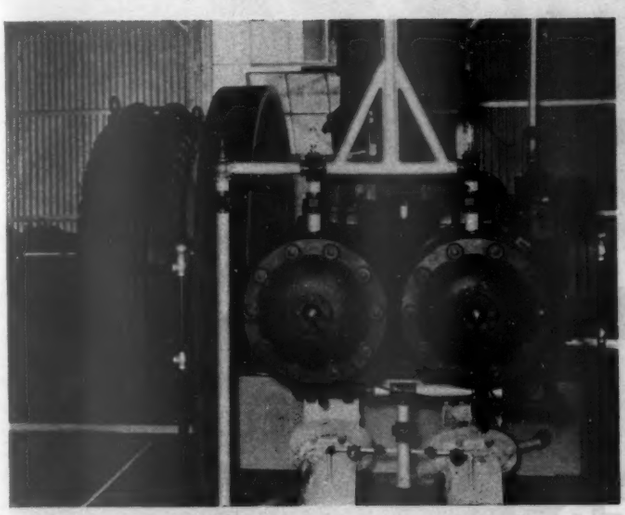
Central Generating Panel

Since the gas supply may sometime be exhausted, it was necessary to select a convertible oil engine. Also, if the power plant is to be kept in proportion to the power requirement, it is necessary to use small units to avoid either plant oversize or excessive stand-by equipment. To illustrate, a plant requiring the power of two large units would require a third unit for stand-by. Thus it would be 50 per cent overpowered. Whereas a plant of four smaller units would require a fifth unit for stand-by and would only be 25 per cent overpowered. Furthermore, small units would offer a more exact adjustment between power requirements and generating plant.

It was therefore decided to use units of 131 kw. and 180-hp. capacities. Two such units would easily handle the initial requirements and five units or less, the ultimate requirement.

The oil-field type horizontal two-cylinder, two-cycle, 14 by 18-in. convertible, 300-r.p.m. engine offered the important advantages of low first cost and two-cycle reliability, but two-cycle gas engines run unevenly at partial load and are considered too rough for parallel generator operation. To overcome this objection these engines were provided with unusually large flywheels, being 85 in. in diameter with a 12-in. face having a

Powers and Unit Feature



Left: The bypass for the engine-cooling water (Fig. 4) provides quick warm up. At top (Fig. 5) individual engine cooling-water condensers and immediately above (Fig. 6) is shown a typical geared-power installation utilizing stepped-down 2,400-volt current

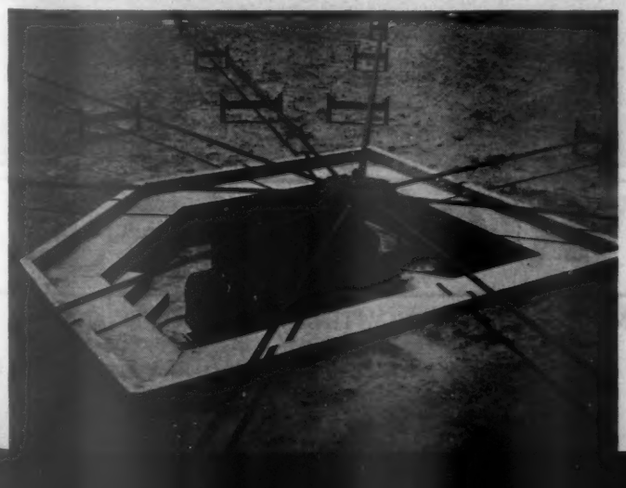
Wr^2 of 68,000 lb.-ft.^{2} If in addition to the large flywheels the generators were given a sufficiently large pull-out torque, there would be no difficulty in parallel operation.

Another problem of importance was the ability of one unit to start the last motor without undue voltage drops. The large flywheel contains enough stored energy to maintain speed for the short interval of time of starting the last motor. The problem then was purely one of generator pull-out capacity. Because of the fact that an all-motor load produces a low power factor, it was desirable to have a low power-factor generator. By using a 70 per cent power-factor generator we obtained the solution of three problems. A 70 per cent power-factor generator of 131 kw. and 187 kva. rated capacity has a pull-out of 500 kw. Thus, this generator can hold these engines together, start the last motor, and handle the low power factor of the load.

Fig. 1 shows one of these units being installed and Fig. 2 is an interior view of the power plant with one unit in operation. The generators are direct-connected operating at 300 r.p.m., 60 cycles, three phase, 131 kw., 187 kva., 50° C. temperature rise, generating at 2,400 volts.

The direct-connected generator has the advantage of large size, presenting plenty of room for cooling and permitting single layer coils. Because of this it has a 30 per cent overload capacity and will thus be able to meet a full kilowatt load with a power factor as low as 55 per cent without overheating, hence we are assured that the engines may be loaded to their capacities, the low power factor notwithstanding. Knowing that in oil-well pumping the load is cyclical and that the variation in power is accomplished largely by a change in power factor, it became necessary to have good voltage regulation, hence a 1,750-r.p.m., 10-kw., 125-volt exciter with V-belt drive was chosen. This, together with a General Electric direct-acting rheostatic type voltage regulator, gives close voltage regulation even with the sudden surge of current due to starting the last large motor.

In parallel operation it is very essential that all engines have uniform governor characteristics to prevent one engine from hogging the load. To make sure of this, special precautions were taken to assure uniform gas pressure to the engines. Fig. 3 shows the external view of the power plant with a large-volume gas tank for each engine. To prevent surge, these tanks have a common Fulton gas regulator and are interconnected near their top by a 4-in. line. There is a 2-in. gas line to each engine with a reduction of 1½-in. at the graduated gas cock. The governors are provided with an adjustable linkage to secure any desired droop characteristic. By trial adjustment to this linkage it has been found possible to obtain a load division between these engines which will maintain itself over a wide range of load and over an indefinite period of time without attention. In fact, this power plant is unattended at night and its load division is maintained through that period without adjustment or tinkering.



Left: Fig 7—Close-up of geared power and electric motor

This plant has been operating in parallel with 150-kw. total load without difficulty. The circulating current between the two generators, due to uneven firing of the engines, appears from oscillograph records to be very small, perhaps of the order of 2 per cent. It is nearly within the error of measurement on the recordings. This circulating current produces no appreciable heating of the generators and hence no appreciable loss of power. True there is some trading of load between the two generators, but this is accomplished without increasing the total current.

The switch gear consists of a generator panel for each generator, a synchroscope and frequency meter panel, and three feeder current panels. Each generator panel is equipped with an a.c. voltmeter, and a.c. ammeter, an indicating wattmeter, a d.c. ammeter and rheostat for field current, a direct-acting rheostat type voltage regulator and a direct hand-operated oil switch, together with a synchronizing bus to the synchroscope. Each feeder panel is equipped with an a.c. ammeter and a direct hand-operated oil switch with overload relay. No. 1 feeder panel also carries the totalizing watt-hour meter. All panels are provided with overhead disconnecting switches.

Fig. 4 shows the bypass for the cooling water to the circulating pump for quick warm-up of the engine and maintaining its normal operating temperature while the tank water is reaching a stable temperature. The volume of water passing through the engine is at all times constant. The cooling system is closed, using a heat exchanger in a cooling tower. The closed system is circulated by a V-belt-driven pump. The secondary water is circulated by an electric-motor-driven pump. Each engine has a separate cooling tower as shown in Fig. 5. Both the primary and secondary systems can be interconnected at will.

The air-start system has two air bottles and is supplied with compressed air by a V-belt-driven. two-stage hopper-cooled compressor and a 3-hp. single-cylinder hopper-cooled gas-gasoline engine. The controls of this air system are mounted on a panel together with the gas-pressure manometer, all conveniently located.

The power-plant building is steel frame and corrugated sheet steel with high side walls to secure plenty of head room and good ventilation. Good ventilation is always desirable, but especially so in a warm climate. This plant is about 3½° north of the Tropics.

The orderly expansion of this plant can be accomplished by removing the end wall and adding sections to the building according to the number of units added. The wiring from the generators

The Permian Royalty Co's. Rig

IN THE PERMIAN BASIN

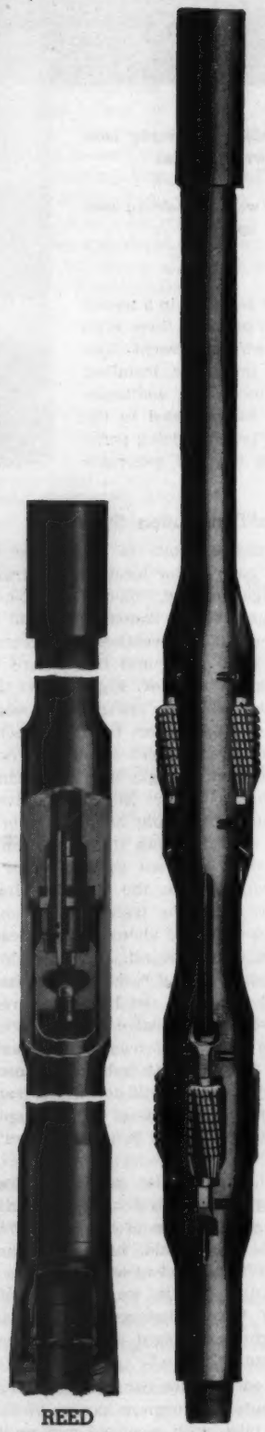
REED
DRILL
COLLARS

REED ROLLER

ROCKY MOUNTAIN - MID-CONTINENT AND GULF COAST

REED EQUIPPED FOR SLIM HOLE DRILLING

REED ROCK BITS



REED KOR-KING CORE DRILLS

REED REAMERS

BIT COMPANY

DISTRIBUTORS FOR MARTIN-DECKER PRODUCTS

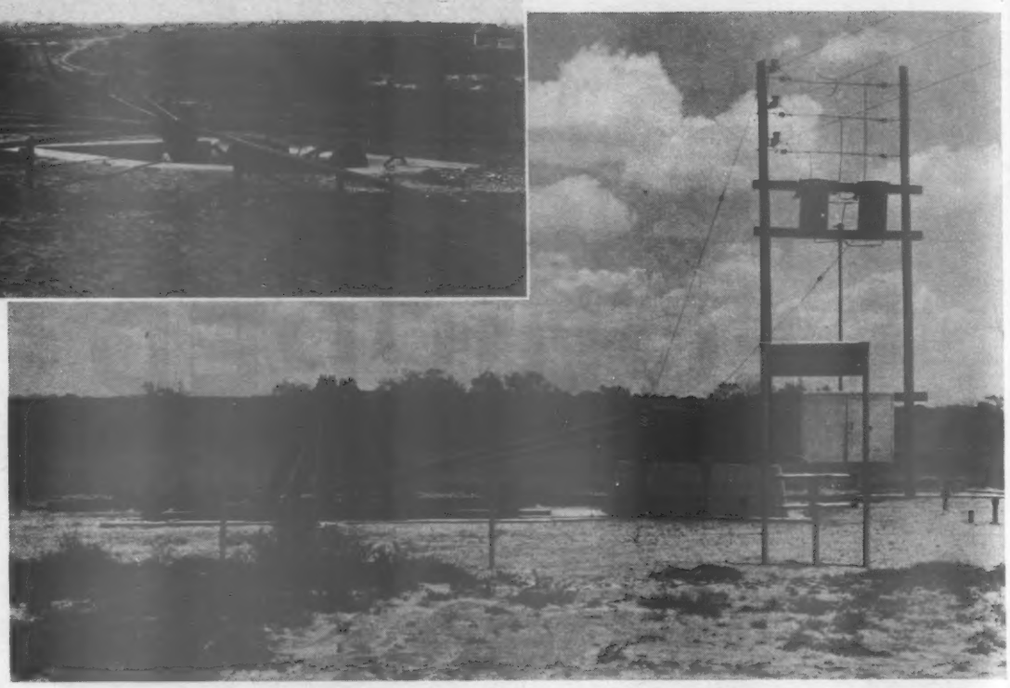


Fig. 8—(Above) Rolling topography introduces power problems

Fig. 9—(Right) Four-well motor-driven hookup

to the switch gear is placed in a trench covered with floor plates so there is no necessity to disturb the present floor when additional units are installed. There is room provided for additional generator panels to be added to the switch gear. The synchronizing panel will be hinged to the last generator panel.

Electrical-Distribution System

The current at 2,400 volts is distributed by three circuits. At each motor location it is transformed by bridge-mounted, oil-cooled, 25-kva. single-phase 2,400 to 480-volt transformers and by conduit from there to the weatherproof control mounted on the same poles and from there by underground cable to the motor. Fig. 6 shows this quite clearly. All transformers are quite the same. In the case of the 40-hp. motor, two Y-connected 25-kva. single-phase transfomers are used. There is no question but that a single size transformer is very desirable especially in comparatively small systems. One of the big advantages of a few large motors over 10 times that many small motors becomes very apparent at this point. It avoids all low-line losses, as the only low lines in this system are from the transformed banks to the motors, a distance of about 50 ft. in each case, the losses in which are nil. Instead of low-line loss due to induction and resistance, we have rod lines. Properly installed rod lines have very low losses and are less expensive than electrical lines. Nor are the number of transformer banks increased by this method. With individual motors at each well, good economy will demand a transformer bank for about 10 wells of 10 acres spacing; otherwise, what is saved in transformers is spent in copper.

The lightning hazard is also greatly reduced. To cite specific figures, this system has 2¼ miles of 2,400-volt line and 11 miles of rod lines. With individual motors we would have the same amount of 2,400-volt line and at least 11 miles of 480-volt line. In other words, we would require as many miles of 480-volt line as we now have rod lines. The lightning hazard would of course be 1¼ to 12½ as roughly 1 to 5.

The control of each motor consists of starting equipment with autotransformers having 67-75-85 per cent voltage taps, with overload and under-voltage protection operated through oil switches and having a fused knife entrance switch.

Fig. 7 shows a geared power and its electric motor installed in a pit. The electric motor is a 75-hp., 440-volt, 60-cycle, three-phase, high-starting torque, low-starting current, normal slip ball-bearing splash-proof induction motor. The V-belts are ratioed for 16 or 19¾ strokes per minute to suit the requirements. A sheet metal V-belt guard designed to take any ratio down to 12 strokes per minute protects the drive from the weather. The geared powers have a torque capacity of 250,000 in.-lb., with an adjustable crank stroke of from 18 to 30 in. This adjustable stroke feature has already proved its value. The stroke has been adjusted on each power to suit exactly the pumping conditions imposed by the wells. The electric motor drive on a geared power has an advantage as shown in Figs. 7 and 8 in that it does not block rod lines and thus makes for a more inherently balanced power.

Figs. 6 and 8 show clearly the unusual settings of some of the geared powers. The topography of this country consists of long, rolling hills. To attempt to set the geared powers level on these hillsides would have required high knock-off posts on one side and trenches for the rod lines on the other side of the powers beside much grading. The pitmans are 60 ft. long, which further augmented this condition. To avoid all this, the geared powers were set parallel to the hillside surface so that all knock-off posts were the same height. Fig. 8 shows quite clearly how a catenary rod line leads off from the knock-off post without the use of a holdup. Besides, the advantage of low knock-off posts, the powers set parallel with the hillside avoided many holdups and holddowns. In the 11 miles of rod line there were only 13 holdups and no holddowns, which for this rolling country is quite remarkable. A checkup showed that with level-set powers, 37 additional holdups and holddowns would have been required. In setting a power parallel with the hillside the ordinary leveling methods could not be employed. Everything had to be set by transit. Of course a plumb bob was also useless. All this was a bit awkward to the workmen at the first attempt, but a technique was soon developed that required but little more effort than does level setting. Later it was found necessary to place a concrete curb about 6 inches high on the uphill side of the power pits to divert the surface water from flooding the pit during a heavy rainstorm. These curbs are built in the form of a V with the vertex pointing uphill. This construction gave them the necessary self-support and prevents any damming of the water. They have proven to be very effective.

Fig. 9 shows the four-well hookup with a 40-25-15-hp. electric motor of the same specification as the larger motors. The gear reducer has a torque capacity of 140,000 in.-lb. It will be noted that this also sets on a hillside with rod lines parallel with the surface; the gear reducer, however, is set level, otherwise the setup is conventional.

This installation was put into operation September 1, 1938, and has been operating continuously. Besides supplying current for the motors, it also furnishes current for more than a dozen families in two company camps. Operating difficulties have been confined entirely to the cooling water treatment. Originally this installation was made with an open cooling system and after several futile attempts to treat the water, it was abandoned and the closed system described above was installed. Even though the water treatment might have been made a success had we persisted, it nevertheless threatened to become the greatest single expense in operating cost and so was uneconomical. Otherwise there have been no difficulties in paralleling the machines, or starting the motors. In fact, with nearly a million kilowatt hours now behind it, the only electrical expense has been the replacement of links in two fuses, blown by loose connections. The day load on this plant at present is about 155 kw., indicating about 2.5 kw. per well. Since the rod line horsepower measures from 1 to 6 hp., we may estimate the average to be close to 3 hp. This would indicate a satisfactory efficiency considering the rather light load on the large motors. The power factor averages about 60 per cent but with large generators and sufficient coppers in the short high lines a 60 per cent power factor means nothing.

Operating costs indicate that eight individual engines, one at each unit, in place of the electric motors could not compete with the present setup. Of course they would not compete in first cost. It is readily conceivable that the machinery of the power plant receives better care and attention than would be likely with eight separated engines on the lease. Furthermore, since electric motors require no attention other than lubrication twice a year, the pumper has more time to give to the underground equipment. The labor cost of operating the power plant is only the salary of one attendant. The plant runs itself all night. The down time, except for cooling water difficulties which have been eliminated, has been nil.

The 12 months of operating experience should be sufficient to demonstrate that parallel operation of two-cycle gas engines in a central generating plant for oil-well pumping is practical and economical, both in first cost and operation. The success of this plant has been due largely to recognizing the unique condition of both load and proposed equipment, and designing accordingly.

A. C. S. Abstracts

Papers presented before Petroleum Division of the American Chemical Society meetings held in Boston September 11 to 15.

Propane Precipitation of Petroleum Resins

By P. T. GRAFF and H. O. FORREST
M. W. Kellogg Co.

Petroleum resins may be precipitated out of solutions of liquid propane and viscous fractions of crude petroleum at temperatures of 125° to 180° F. The resins so produced may be narrow fractions containing color and carbon-forming material or wider fractions containing also very high viscosity oil of a naphthenic or paraffinic type. Operations are shown of propane precipitation of resins from several crude petroleum residua; some physical characteristics of these resins are given. The resins may be treated with selective solvents or further settled in propane solutions to obtain products not usually realized from petroleum.

Composition of the Higher-Boiling Naphthenic Acids Separated From Gulf Coast Petroleum

By ROY W. HARKNESS and JOHANNES H. BRUUN
Sun Oil Co.

Naphthenic acids isolated from the lubricating-oil portion of a Gulf Coast petroleum have been purified and fractionated in a molecular still. The acids were found to be of the monobasic type and to have a molecular-weight range of about 220-440, corresponding to 14 to 29 carbon atoms per molecule.

The average-type formulas ranged from $C_nH_{2n-4}O_2$ to $C_nH_{2n-10}O_2$. The hydrogen deficiency below that of the fatty acid series ($C_nH_{2n}O_2$) was not due to simple unsaturation but to naphthenic rings with possible admixture with aromatic rings.

A Study of the Effects of Lubricating Oils on Neoprene Vulcanizates

By DONALD F. FRASER
Rubber Chemicals Division, E. I. duPont de Nemours & Co.

Neoprene vulcanizates when immersed in commercial lubricating oils reach equilibria with respect to swelling or volume increase. The time necessary to reach equilibria depends upon the temperature and the chemical components of the oil. It is shown that the volume increase in a particular oil is a logarithmic function of the viscosity-gravity constant and a direct function of the gravity index.

Conversion of Naphthenic Acids to Naphthene Hydrocarbons With Observations as to Chemical Constitution

By GILBERT E. GOHEEN
Sun Oil Co.

A fraction of naphthenic acids isolated from the lubricating-oil portion of Gulf Coast crude petroleum has been investigated in detail. The fraction had an average molecular weight of 317 and an average molecular formula of $C_{20.7}H_{35.3}O_{2.1}$. The corresponding naphthene hydrocarbons were prepared from these acids by way of the ethyl esters, alcohols, and iodides. These naphthene hydrocarbons were found to have properties corresponding to those of a light oil having some lubricating characteristics better than those of a typical naphthene-base oil.

Evidence was obtained to indicate that the acids were monobasic compounds containing on the average a little more than two naphthene rings per molecule. No more than about 5 per cent by weight of aromatic material was present.

Fractionation of Pennsylvania Kerosene and Gas Oil

By RALPH W. HUFFERD and HAROLD A. KRANTZ
Kendall Refining Co., Bradford, Pa.

Samples of Pennsylvania kerosene and gas oil have been fractionated in a packed column of 27 theoretical plates similar to those used by Fenske and his coworkers. The fractions represent 1 per cent of the charge or about 0.16 per cent of the crude. Refractive index, specific gravity, and rough melting point were obtained. Each fraction was analyzed for aromatic content by shaking with sulfuric acid. The refractive index of the residue was taken. All normal paraffins boiling in this range were found to be present in about constant concentration.

Investigation of Composition and Structure of Naphthenic Stocks by Dehydrogenation. A Kerosene From Placedo Oil Field, Victoria County, Texas

By A. V. GROSSE and JULIAN M. MAVITY
Universal Oil Products Co.

This work is directed toward the investigation of the structure of the naphthenes present in natural oils boiling above the gasoline range. To the knowledge of the authors no successful attempt to determine their structure has ever been made.

The composition of a Placedo kerosene has been investigated by extraction, exhaustive dehydrogenation, and fractional distillation methods. The kerosene consists of some 85 to 90 per cent of saturated hydrocarbons, the rest being aromatic.

The saturated portion in the range 200° to 250° C. is naphthenic in character and contains an average of 2.0 rings per molecule. It is concluded that at least 60 per cent and possibly as high as 85 per cent of this fraction contains hexahydroaromatic rings. The isolation of substantial quantities of diphenyl and dimethylnaphthalenes, viz., 2,6-dimethylnaphthalene, from the dehydrogenated oil demonstrates the presence of dicyclohexyl and dimethyldecahydronaphthalenes.

Dimethylnaphthalenes were also isolated from the original aromatic portion of the kerosene.

Action of Boron Halides on Hydrocarbons

By ROBERT F. RUTHRUFF
M. W. Kellogg Co.

The preparation and physical properties of the four boron halides are very briefly reviewed. The action of these halides on hydrocarbons is completely covered. Major emphasis is given to the plastic resins formed by the action of boron fluoride on isobutylene. The preparation and properties, as well as the many suggested uses for these polymers, are discussed in considerable detail, the patent and scientific literature being reviewed, and several hitherto unpublished observations are included. The preparation of solid resins from styrene and diolefins is also considered. Some attention is given to an electronic interpretation of the action of boron halides on hydrocarbons.

The Influence of Chemical Composition Upon the Properties and Uses of Certain Vinyl Resins

By S. D. DOUGLAS
Carbide and Carbon Chemicals Corp.

In common with other synthetic resins, the characteristics and usefulness of the vinyl resins may be varied by suitable changes in manufacturing conditions. As an example of resins of this type, the vinyl chloride-vinyl acetate copolymers may thus be modified by controlling degree of polymerization and vinyl chloride-vinyl acetate composition. In the present paper, the properties of the resulting resins and their industrial applications are described in detail. A brief discussion of polyvinyl chloride and polyvinyl acetate, and their relation to the vinyl chloride-vinyl acetate copolymers is included.

Naphthenic Acids—Aruba Acid

By J. R. M. KLOTZ and EDWIN R. LITTMAN
Stanco, Inc.

The commercial uses of naphthenic acids were derived from their acidic properties. In some cases the acidity of any particular sample of acid is the only requisite for its use, while in others, such as in driers, acidity alone is not the only factor to be considered. The present investigation was undertaken as part of a series of studies on the compositions of commercial naphthenic acids and the possible effects of some of the nonacid components on the properties of the acids.

The presence of phenols in naphthenic acids has been demonstrated by several investigators, though only one record has been found relative to the quantities of phenolic bodies present or their distribution in fractions obtained by the distillation of the commercial acids. In the present work a sample of Aruba naphthenic acid was distilled under reduced pressure into eight 10 per cent fractions and a 20 per cent residue. The phenol content of each of these fractions was determined as well as some of the characteristics of the acids contained in the fractions. It has been shown that phenols are distributed mainly in the low and high-boiling ends of Aruba acid, and that the intermediate fractions contain only relatively small quantities of phenolic bodies. The results of the present work, while too incomplete to permit the drawing of final conclusions, indicate that the general use of the acid num-

ber as a criterion for the purchase or evaluation of naphthenic acid does not give sufficiently detailed information to be of much use to the consumer.

Solvent Extraction of Crude Naphthenic Acids

By KEITH M. SEYMOUR, VERNON CHELDELIN, and H. B. WILLIS
Reed College, Portland, Ore., and Carleton College, Northfield, Minn.

The hydrocarbons associated with crude naphthenic acid stock cannot be removed by distillation. Purification methods are described in the literature whereby alkaline salts of the acids are freed from hydrocarbons by extraction with organic solvents but only one instance has been noted where the liquid hydrocarbon-naphthenic acid mixture has been subjected to extraction with an organic solvent. A commercial naphthenic acid product has been fractionally distilled and the results of the extraction of certain fractions with wet methanol are described. An extract is obtained in good yield which has a much higher acid content as determined by the acid number than the original material.

Production of Petroleum Resins

By S. C. FULTON and A. H. GLEASON
Standard Oil Development Co.

In addition to the naturally occurring resins which nearly always are present in crude oil in small amounts, resins may also be formed during the processing of these oils and by direct synthesis.

Cracking-coil tar resins may be recovered by absorption, but it has been found preferable to subject the tar to distillation and solvent extraction. Treatment of the reduced tar with metallic halides is especially advantageous both for increasing the yield and causing separation of undesirable constituents.

Petroleum distillates, particularly those of high aromatic content, may be condensed with formaldehyde to form useful resins. Less highly aromatic stocks may be partially converted to resinous material by chlorination followed by dehydrogenation either at elevated temperatures or with metallic halides.

The Determination of Friction Characteristics of Lubricating Oils

By A. W. BURWELL and J. A. CAMELFORD
Alox Corp., Niagara Falls, N. Y.

An apparatus is described for the determination of friction characteristics of lubricants under controlled conditions of temperature, speed, pressure, and surface conditions, using a partial journal-bearing system of bronze on steel. A considerable degree of accuracy is claimed for the apparatus, agreement to within 2 per cent being obtained for check tests. Friction data are given for a series of oil blends with naphthalene, alpha-naphthol, alpha-naphthylamine, and alpha-nitronaphthalene, together with the friction characteristics of the petroleum stock used in making the blends. These figures tend to show that the additions have deleterious effects on the lubricating ability of the oil, despite the fact that these substances have been advocated for improvements of certain characteristics of lubricants in service.

Catalytic Dehydrogenation of Monoolefins to Diolefins

By ARISTID V. GROSSE, J. C. MORRELL, and JULIAN M. MAVITY
Universal Oil Products Co.

Monoolefins have been dehydrogenated catalytically to give conjugated diolefins of the same carbon framework. The most satisfactory catalysts consist of chromium, molybdenum, or vanadium oxide on alumina. Since the reaction is favored by low pressures and high temperatures the conditions usually used were 0.25 atm. or less and 600 to 650° C. The diolefins formed were butadiene-1,3 from *n*-butylenes; isoprene from 3-methylbutene-1 and a mixture of 2-methylbutene-1 and 2-methylbutene-2; and piperylene from pentene-2. The once-through yields varied from 20 to 30 per cent; ultimate yields of butadiene-1,3 up to 80 per cent were obtained. Cyclopentadiene was obtained by dehydrogenating cyclopentane.

A Study of Phenolic Compounds From Petroleum Sources

By EDWARD FIELD, FRED H. DEMPSTER, and GEORGE E. TILSON
Standard Oil Co. of California

A historical review of the literature pertaining to the occurrence and nature of phenolic substances from petroleum sources has been made, together with a brief account of their properties. A detailed description is then presented of the investigation made by the authors on light, medium, and heavy grades of phenolic compounds; their physical, chemical, and germicidal properties are given, each grade having been refractionated into 3° C. cuts. These various cuts were finally analyzed for individual phenolic compounds according to established methods of procedure, the analyses being made as quantitative as possible. Comparative data were also obtained on phenolic compounds from coal-tar sources as represented by a regular grade of purchased "cresylic acids."

The Properties of the Polybutenes and Their Uses in Petroleum Products

By R. M. THOMAS, J. C. ZIMMER, L. B. TURNER, R. ROSEN, and PER K. FROLICH
Standard Oil Development Co.

Hydrocarbon polymers of high molecular weight and varying in appearance from viscous liquids to tough elastic solids are obtained by the polymerization of butenes at low temperatures. The general properties of these substances, and their use in various petroleum products are described. At ordinary temperatures the polymers are chemically inert and of stable character. In general, they are most readily dissolved in liquid aliphatic hydrocarbons and certain chlorinated hydrocarbons. Dilute solutions of the polymers are employed for the estimation of the average chain length of the molecules by the viscosity method. As addition agents in the production of various petroleum products such as motor oils of high viscosity index, nonleaking textile lubricants or adhesive grease compositions, concentrated solutions of the polybutenes in mineral oils are employed. In other instances, the general properties of products such as asphalt or paraffin wax are modified by the incorporation of the polybutenes directly.

The Behavior of Naphtha Solutions of Free Sulfur and Sulfur Compounds Upon the Distillation-Corrosion and Copper-Strip Corrosion Tests, and the Sensitivity of the Doctor Test

By L. M. HENDERSON, M. S. AGRUSS, and GEORGE W. AYRES, JR.
Pure Oil Co.

Solutions of free sulfur and organic sulfur compounds in naphthas were examined for corrosiveness to copper (1) during an A.S.T.M. distillation with a copper strip placed vertically in the distillation flask ("distillation corrosion" test), and (2) in the ordinary copper-strip corrosion test for 3 hours at 122° F. The results from (1) show that there are two determining factors: (*a*) the boiling point of the sulfur compound with reference to the boiling range and end point of the naphtha, and (*b*) the stability of the sulfur compound at moderately high temperatures. Of the mercaptans, sulfides, and disulfides investigated, none affected the copper-strip corrosion test at 122° F. The sensitivities of seven mercaptans in naphthas to the doctor test are listed. The type of container used for the test affects the sensitivity of the doctor test.

The Molecular Volume of Saturated Hydrocarbon

By S. S. KURTZ, JR., and M. R. LIPKIN
Sun Oil Co., Marcus Hook, Pa.

A system of increments has been developed by which it is possible to calculate the density of saturated hydrocarbons. Graphs relating density to molecular weight for paraffins and naphthene have been prepared.

It is shown that if the number of rings per molecule is accurately known, one can use the density-molecular weight charts to determine the number of carbon atoms in the average ring.

The molecular-volume data for normal paraffins have been compared with corresponding X-ray measurements and thermal data. Previous observations on the cross-section of the normal paraffin chain have been confirmed. Volume and thermal data both show analogous deviations for the first few members of the homologous series from the linear equations representing paraffins in general.

Film-Forming Action of Lead Naphthenate and Free Sulfur in Extreme-Pressure Lubricants

By G. L. SIMARD, H. W. RUSSELL, and H. R. NELSON
Battelle Memorial Institute

Electron diffraction methods have been applied to the study of chemically formed films produced on iron, copper, bronze, tin, and babbitt when heated or subjected to friction in lead naphthenate and free sulfur lubricants. Free sulfur in oils promotes the formation of oxides on iron and sulfides on copper and bronze. Oils containing lead naphthenate alone form adherent lead-containing films which are characterized by amorphous-type diffraction patterns. When both additions are present, the metal is covered by a layer of lead sulfate over which lead sulfide forms. This action is more rapid in commercial-base oils than in highly refined oils.

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Big West Oil Co	*Kevin, Mont*
Black Gold Refining Co	*Oklahoma City, Okla*
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Continental Oil Co	*Ponca City, Okla*
Continental Refining Company	*Oil City, Pa*
Cooperative Refinery Association	*Phillipsburg, Kansas*
Cosco Oil Co	*Wynnewood, Okla*
Cosden Oil Corp	*Big Spring, Texas*
Cushing Refining & Gasoline Co	*Cushing, Okla*
Deep Rock Oil Corp	*Cushing, Okla*
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Eagle Oil & Refining Co	*Santa Fe Springs, Cal*
Elk Refining Co	*Falling Rock, W Va*
Empire Oil & Refining Co	*Ponca City, Okla*
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Independent Refining Co	*Laurel, Mont*
Johnson Oil Refining Co	*Cleveland, Okla*
Kendall Refining Co	*Bradford, Pa*
Leonard Refineries Inc	*Alma, Mich* *St Louis, Mich*
Louisville Refining Co	*Louisville, Ky*
Malco Refineries, Inc	*Artesia, New Mexico*
McMurrey Petroleum Corp	*Tyler, Texas*
Mid-West Refineries, Inc	*Alma, Mich*
Mohawk Petroleum Corp	*Mopeco, Kern Co, Cal*
Naph Sol Refining Co	*Muskegon, Mich*
National Refining Co	*Coffeyville, Kansas* *Findlay, Ohio*
Northwest Refining Co	*Cut Bank, Montana*
Pana Refining Co	*Pana, Ill*
Panhandle Refining Co	*Lueders, Texas* *Wichita Falls, Texas*
Pennzoil Co	*Oil City, Pa*
Phillips Petroleum Company	*Kansas City, Kansas* *Okmulgee, Okla*
Quaker State Oil Refining Corp	*Farmers Valley, Pa* *Emlenton, Pa* *St Marys, W Va*
Root Petroleum Company	*El Dorado, Arkansas*
Shamrock Oil & Gas Corp	*Moore County, Texas*
Shell Oil Co Inc	*Dominguez, Calif* *East Chicago, Ind* *Houston, Texas* *Martinez, Calif* *Sellers, La* *Wilmington, Calif* *Wood River, Ill*
Socony-Vacuum Oil Co, Inc (White Star Division)	*Trenton, Mich*
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Anglo-Canadian Oils, Ltd, *Brandon, Manitoba*	Good Rich Refining Co, Ltd, *Port Credit, Ontario*
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Photographs by Robert Yarnall Richie

Collecting soil sample and placing in airtight container for transporting to laboratory

Air-drying the soil samples in preparation for the laboratory analysis

Weighing out sample on gravimetric balance after sample has been air-dried and ground to uniform size

Progress in Soil Survey

SOIL surveys or exploration for oil and gas by geochemical methods have been before the industry on a commercial basis for almost 2 years. While basic theories underlying the methods have been substantiated, extensive research conducted in the laboratory and knowledge gained from widened experience has resulted in the analyst being better able to interpret the geochemical data. And, at the same time, theoretical conceptions have been clarified and extended.

When soil analysis was first introduced it was generally regarded as something entirely new in exploration. The fact that it was designed to give information regarding the presence or absence of oil and gas in place, rather than on structure as was the basis of geophysical methods, caused some to regard it with skepticism. Theory underlying geochemical methods and the relationship of gas seeps with oil and gas fields, however, is deeper seated in the literature than is generally realized; soil surveys being merely a refinement and laboratory application of an older method.

That oil and gas seeps exist at the earth's surface is unquestionable, as a great number have been found in lakes and marshy regions where the escape of gas is more noticeable to the eye or ear. Since only a small portion of our land mass is covered with water it stands to reason that a much greater number of extensive seeps exist in the earth's crust that are not noticeable. It also stands to reason that an infinitely larger number of smaller gas or oil seeps exist in the earth's crust through probability of occurrence. Due to their minute size and the small volume of gas seepage involved, they escape ready detection.

In Russia and other foreign countries, exploration for oil, until comparatively recently, was conducted to a large extent through a search for these seeps. As a consequence a high percentage of oil fields found in countries outside the United States are associated with gas or oil seeps. In the earlier days of the industry in this country, before geophysical methods came into such prominence, geologists in some areas also worked along these lines in their exploration work. In fact, discovery of the first oil field by drilling, and many others later, was directly due to the presence of an oil seep.

Important Role in Discovery

Association of oil and gas seeps with oil fields and the important role they played in the discovery of oil fields is pointed out by George Sawtell in the A.A.P.G. Bulletin of 1936, Page 726. Here he shows that prior to 1936, out of 141 salt-dome fields on Gulf Coast Texas and Louisiana, 75 owed their existence, at least in part, to seepage of oil and gas at the earth's surface or in shallow water wells, as well as to mineralization phenomena. Of this total 33 owed their discovery, to at least some extent, to gas seeps; 2 to oil seeps, and 6 to gas and oil seeps in shallow water wells, making a total of 41 found through their association with oil and gas seeps. In addition, mineralized waters were associated with the discovery of 14 fields and in 20 other fields paraffin dirt had something to do with their discovery. Since it is believed that paraffin dirt owes its existence to some type of mineralization in which the escaping hydrocarbon gases played an important role, it may be said that of the total number, 34 were associated with mineralization.

The technique of oil exploration by geochemical or soil analysis methods and its relation to early exploration methods using visible oil and gas seeps may be likened to micropaleontology and paleontology. Prior to the advent of micropaleontology, cores, cuttings, and outcrops were studied for the fossil and plant life visible to the eye. With the introduction of the microscope to this work the science was advanced to the extent that fossil and other life not visible to the eye could be studied. In much the same manner early exploration for oil fields was conducted for oil and gas seeps that were visible, whereas now the geochemist conducts his search in the laboratory for residual materials deposited in the soil by exiting gases. It is merely an extension and transition of a field method to the laboratory.

With a working hypothesis established for soil analysis it remains for the chemist, through intensive research, to develop the method to its fullest extent. Companies engaged in soil analysis work are carrying on this research, and while it has proven to be very fruitful to date, either by weeding out erroneous assumptions or proving other theories, much remains to be done before fullest limitations and applications of geochemical method are definitely proven.

A soil survey is the first valid direct method of exploration, in that it measures leakage from an oil or gas field. As a result it should be an effective method of exploring for accumulations in either high or low-relief structures, stratigraphic traps and faults. Where previous methods have reached their limit in defining structural conditions, the soil-survey method has the advantage of being independent of structural conditions. The type of pattern will be different over different-type structures, but will be there regardless.

The reflection seismograph has been extensively used in the past 10 years as a reconnoissance method of exploration. Large areas have been surveyed by the method, but there are extensive areas where the seismograph has not been sufficiently effective. These areas include West Texas, western Oklahoma and areas in California covered by alluvial fans. It is believed that soil surveys will be effective in many of these areas,

By D. H. STORMONT

Separating gases by fractionation in high-vacuum apparatus

Apparatus used for extraction of waxes and liquids from the soil samples

Plotting results of a soil survey made to delineate productive area of a field

Methods

and cost as a reconnoissance tool will be comparable to, and perhaps considerably lower than, that of seismograph in the past.

In addition there are many additional marginal prospects located by seismograph, which without additional confirmation are too indeterminate to justify drilling, that may be evaluated by soil surveys. This situation is analogous to that which existed when the reflection seismograph superceded the refraction seismograph and reflection seismograph proceeded to evaluate many refraction marginal prospects. Many structures of low relief or small closure indicated as a marginal prospect by the reflection seismograph, or passed over due to the relief being within error or the method, will be further evaluated by soil surveys.

Depth at which soil-survey samples are taken varies from several inches under the surface to depths of 10 ft. One soil-survey company, to whose methods the remainder of the discussion pertains, has come to the conclusion that between 5 and 7 ft. is a safe working depth. If samples are taken at much shallower depths it is believed they might be subject to the effects of erosion. Deeper samples of course would serve, but this would only add to the sampling cost and is not necessary.

In taking the samples a boring tool such as is shown here is used. Of utmost importance in taking the soil sample is that it be taken in a clean hole. If material is allowed to drop in from the surface, the sample would not be fully representative of the material at that depth. If the sampling is not properly done, the sampling error is apt to be much greater than the errors of analysis.

For this reason it has been found necessary to secure a mixture of at least three samples, and then analyze the mixture. Experience indicates that four analyses per mile are sufficient for reconnoissance surveys. In view of the fact that profile lines are run a mile apart, this would also mean four analyses per mile.

In the laboratory the composite samples are dried at an even temperature to remove all traces of moisture, after which they are ground to a uniform size. Different amounts of the samples are then weighed out for determining the percentages of the different constituents present. Results are expressed in per cent by weight of the sample.

Analyses may be made for the ethane, or surface and subsurface waxes, but maps or profiles based on liquid hydrocarbon and mineral values are thought to be more significant since these constituents occur in much larger quantities in the subsurface soil. As a consequence, in commercial work most soil surveys are based on liquid hydrocarbon and mineralization values, although experimental work is still conducted on the gaseous and solid hydrocarbons.

In analyzing for hydrocarbon content the samples are gently heated to expel hydrocarbon vapors. These are then separated into different component gases by temperature fractionation in high vacuum apparatus.

Waxes and liquids may be extracted by using suitable hydrocarbon solvents. Views of the laboratory extraction and fractionation equipment are shown in the accompanying photographs.

In determining the mineralization value of the soil samples, some one mineral or a composite of several minerals is used that will give a consistent result.

Final step in the method is placing the liquid hydrocarbon and mineralization values on maps at their respective collection stations, and the interpretation of the data. Significance of the prospect is determined by the relationship of the data obtained. In the case of gently folded anticlines, the halo type of map is obtained; in case of stratigraphic traps and accumulations against faults, a semihalo may result. In each of these cases gas leakage will occur around the down-dip side of the accumulation, whereas there may be little or no leakage from the sealed up-dip side of the accumulation.

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Operating Ideas

Cooler Improves Gas Fuel

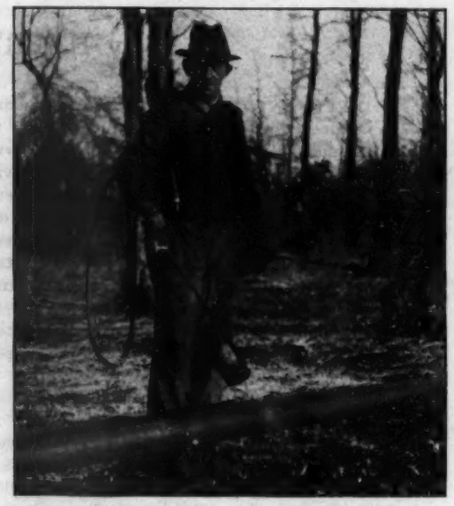
Gas from the heater used in treating the crude from a battery of four wells in the El Dorado district, Arkansas, is drawn off above the oil and piped to the horizontal gas engine driving the power which pumps the four wells. As the power and the treater are located close together, the gas drawn off is hot and contains more or less vaporized fluids which would tend to interfere with engine operation. The incoming gas is therefore led through a cooler, consisting of 2-in. pipe connected by headers in parallel to the gas supply and engine fuel line. Over this cooler is flowed a portion of the water pumped for cooling the engine, the flow being through a pipe suspended just above the top pipe of the cooler and being perforated with small holes at intervals to permit a steady trickle of water down across the pipes. By evaporation, the gas is cooled to a point where sufficient volume can be drawn into the engine for proper combustion. Which of course means higher efficiency.

Pumping Unit House

In areas where it is desirable to protect pumping units in cold weather, several types of houses have been built. The accompanying photograph shows a house of galvanized iron construction which protects the unit against the effects of storms and snowdrifts. Casinghead connections are left in the open to facilitate work on the well.

Heating Pipe Before Coating

When laying new pipe, or relaying reconditioned lines, the work of applying any of the viscous types of pipe coatings can be speeded up if the pipe be thoroughly dried and warmed with a torch just ahead of the gang applying the coating. The torch for this work is of the portable type, fired with kerosene or light fuel oil; it will generate sufficient heat to dry the entire circumference of 4-in. and smaller lines without rotating or shifting the travel of the burner along the line. Where a 6-in. or a larger line is being coated, best results can be secured by running two burners, one on either side of the elevated pipe. Working under wet and cold conditions encountered in East Texas in midwinter, when there is a heavy frost coating on the pipe early in the morning, preheating takes place fast enough to insure dry, warm pipe ahead of the doping gang. Where temperatures below 25° F. are met, better results have been secured by using two torches, one following the other at an interval of 6 to 10 ft.



Belt Guard for Pump Engine

A contractor in the Illinois fields used a belt guard on the engine which drives the pump. This guard has been made of steel plate which has been shaped so as to cover moving parts in a compact manner; protection on the sides is furnished by heavy wire netting.

Recovery Program in Naval Reserve Field

By HARRY F. SIMONS

A DIFFERENT type of improved secondary recovery program has been developed to meet the unusual conditions in the Naval Reserve field, Osage County, Oklahoma. The project was started in 1937, about 5 years after the discovery of the field, when the flush production was declining rather rapidly and pumping equipment was being installed. The in-between status of the field has made it difficult to accurately measure the effect gained from the return of the gas to the formation as the reaction of the wells is often not predictable. Where wells are in the stripper stage, or where they are in the initial stages of flush production, the benefits of secondary recovery methods are more readily evaluated.

The project is not unitized but can be classed as a cooperative gas-injection project in which each lease owner operates his own property, with the entire group owning the community main line running from the north to the south end of the field. Each company shares in the ownership and expense of the community line. The share of ownership and expense was calculated on the basis of the proportion which each company's expense would bear to the total of all companies' expense, should each company build its own line to the plant. The Lewis Production Co. supervises the maintenance and operation of the community line and furnishes engineering service as well for the benefit of the entire field.

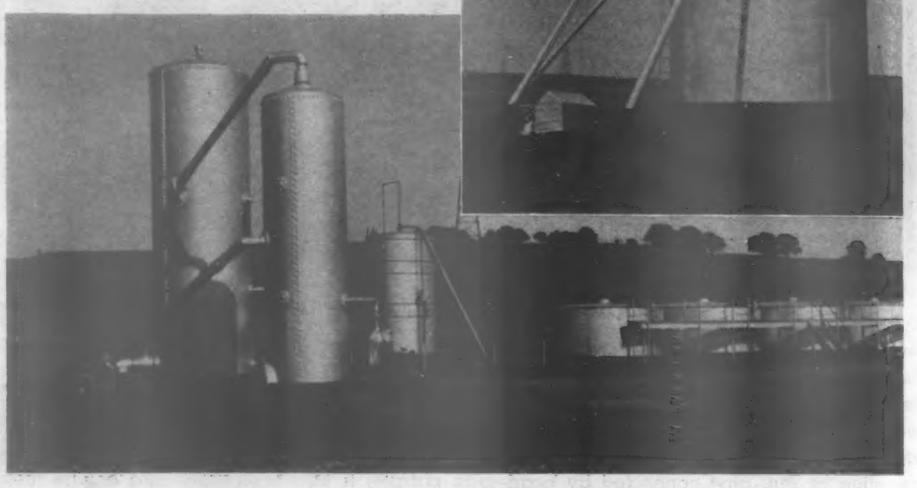
The casinghead gas-gathering system is owned by Phillips Petroleum Co. which operates the repressure plant in conjunction with its natural gasoline plant on the northeast edge of the field.

Another complicating factor arises from the lease agreements which cover the oil and not the gas rights, the latter belonging to the Kay County Gas Co. The Osage Indian Agency requires that the dry gas be returned to the quarter-section from which it was produced or to a contiguous quarter-section under the same ownership. If not used in the prescribed manner, the gas becomes the property of owner of the gas rights and must be delivered into his lines. This provision makes it almost impossible to use any set spacing pattern in the repressure work and delivery of the excess gas to the gas lessee adds to the cost of the operation.

History of the Field

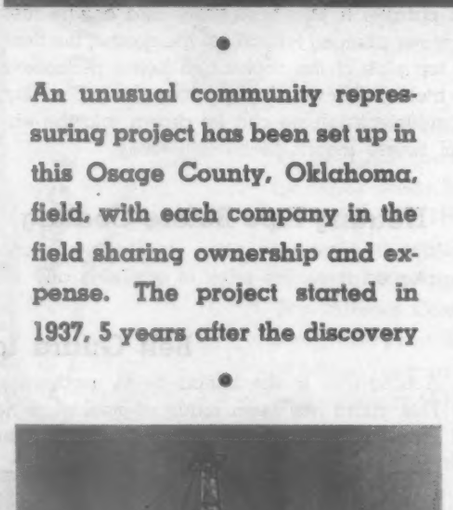
The Naval Reserve pool was discovered in August 1932 by the Lewis Production Co. when it completed its No. A-1 Smith, NE NE SE Section 28-24n-7e; previously the Continental Oil Co. had completed a well in Section 22 but it was near the gas area and was a light oil producer; operators were pessimistic at first about the possibilities on the flanks of the structure and delayed exploitation. Development in the area was slow until Lewis Production Co. completed its No. 2 Mullendore, NE NE SW Section 21-24n-7e, for a very good well which is still flowing and to date has produced over 1,000,000 bbl. of oil.

Completion of the Lewis-Continental Oil Co.'s No. 1 Ah-Kah-Me, SE SE SE Section 9-24n-7e, as a very good oil well started development anew and the exploitation of the field became quite rapid. (At the present time there are wells in Sections 9, 10, 15, 16, 17, 20, 21, 22, 27, 28, 33 and 34.)



Production from pumping wells is stripped of its gas in a flow tank centrally located on each lease, while centrally located separators remove the gas from the production of flowing wells

An unusual community repressuring project has been set up in this Osage County, Oklahoma, field, with each company in the field sharing ownership and expense. The project started in 1937, 5 years after the discovery



Masts over the wells for pulling tubing. This well was pumped a short time but is now flowing

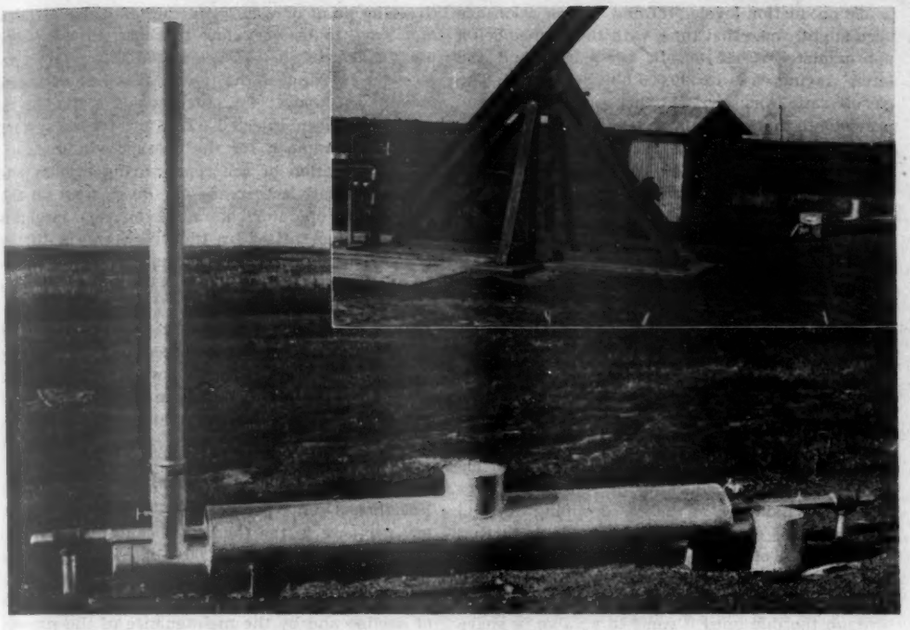
The structure is an asymetrical anticline with its highest point in Section 22-24n-7e; the eastern side of the field is too high in most cases for good oil production. The sand pinches out on the east. A well in NW NW NW Section 23, drilled this year, had no Bartlesville sand.

The map, contoured on the top of the producing formation (Bartlesville sand) shows gas wells, or combination gas and oil wells, along the eastern side of the field.

The structure was originally mapped by the U. S. Geological Survey and appears on old maps of the area. Development of the field has proven that the work on the original map very closely approximated the proven structure with the exception that the east flank has not yet shown any production.

The Naval Reserve field derived its name from the fact that the Osage Indians donated leases to the U. S. Navy Department during the World War as a good-will gesture. The Navy did not operate the leases. After the war they reverted to the tribe and were later leased to private operators. Therefore, the term Naval Reserve, in this locality is now only a name.

Production is from the Bartlesville sand at approximately 2,700 ft., averaging about 40 ft. in thickness. The maximum thickness of the sand also varies widely from 100 ft. on the eastern edge to about 60 ft. on the western and southern edges; it is not uniform in porosity or permeabil-

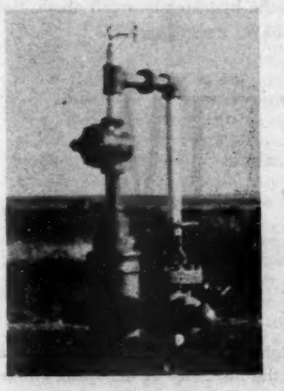


Pressure input well on a Lewis Production Co. lease. The closeup view is of a special heater which keeps input well control connections from freezing. The valve may be regulated by removing the lid on the center of the jacket. The house in the upper picture protects gas meter from damage by livestock

ity and saturation in most wells occurs in streaks. The Bartlesville sand is near the base of the Cherokee shale, generally the oldest member of the Pennsylvanian age in Oklahoma.

Completion pressures in the early life of the field were from 800 to 900 lb. per sq. in. and many of the wells flowed for several years through casing or tubing until proration reduced the allowable runs. The field produced 3,053,000 bbl. in 1935 but declined during the succeeding years to 2,738,000 bbl. in 1936, 2,155,000 bbl. in 1937 and 1,750,000 bbl. in 1938. The total recovery to June 30, 1939, was 14,129,574 bbl. The decline in the field has been checked by the repressuring operations started in October 1937.

At the start of the repressure project there were 261 producing wells and 21 of these were selected for gas-input purposes and since that time 9 producing wells have been added to bring the total producing wells in the project to 249. Only good producing wells were selected for input purposes as the gas is more readily introduced into the sand at points having good porosity and permeability; the location of the wells to meet legal and engineering requirements was given consideration. The wells were cleaned out in instances where there was evidence that the formation might have become partially clogged; they were then tubed with the perforations located opposite the producing zone. The field has a definite gas zone and in most wells the casing was set in the pink lime just above the sands. The high casing point has occasioned only minor trouble to date.



Left: Closeup of one of the input connections on the Naval Reserve repressuring project

Operation

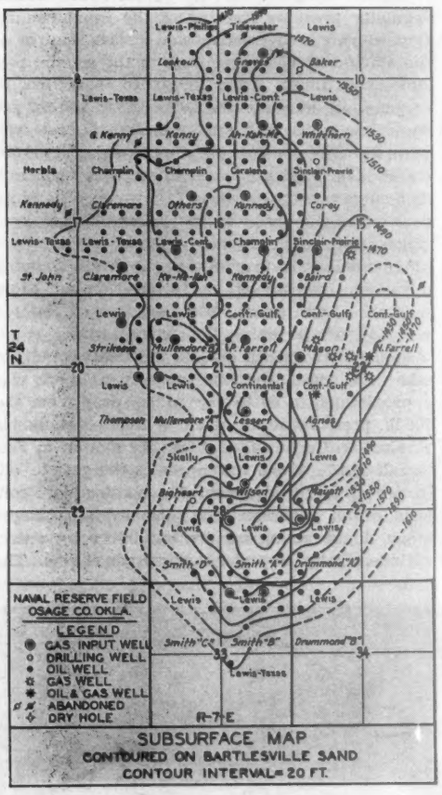
Oil and gas production from the wells goes to central separators or flow tanks and about 11,000,000 cu. ft. of gas is removed daily. The gas is taken through the Phillips Petroleum Co.'s gathering system to its gasoline plant located on the Champlin Kennedy lease in Section 16-24n-7e where it is compressed to 275 lb. per sq. in. and stripped of its gasoline. The gas is then compressed to 700 lb. per sq. in. by three single-stage compressors located in the north end of the gasoline plant. The gas is then returned to the field in a 4-in. high-pressure line from which 2-in. laterals take it to the injection wells.

Input gas is metered and the amount introduced in the pay zone adjusted by a specially heated regulator designed for the project; the heated regulator prevents freezing of the input connections during cold weather and makes control of the amount of gas going back in the ground possible at all times. From 100,000 to 800,000 cu. ft. of gas daily at pressures from 320 to 700 lb. per sq. in. are put back in the sand through each well with the total average daily input being 6,500,000 cu. ft. Gas production of the wells is measured and operators try to replace between 50 and 60 per cent of the produced gas. Close check is kept of gas produced from each well and any evidence of channeling is investigated, as wells showing a sudden increase of gas production, or those making a high gas-oil ratio, indicate the injected gas may not be doing the desired work.

Wells in the south end of the field would not take the gas at the line pressure as there was approximately a 50 lb. per sq. in. drop from the 700-lb. pressure at the plant at that point. Lewis Production Co. installed a booster station in Section 28-24n-7e which recompresses the gas to 700 lb. per sq. in. for injection. The booster plant consists of an Ingersoll-Rand 3-in. by 7-in. single-stage, double-acting compressor driven by a two-cylinder, 30-hp. Superior vertical gas engine. The

Interior and exterior views of the booster station on the Lewis Production Co. lease in the south end of the field. The gas engine and compressor are used to boost gas from line pressure up to input pressure for south end

compressor is capable of delivering 1,250,000 cu. ft. at 800 lb. per sq. in. pressure at 400 r.p.m. while the gas engine delivers its rated horsepower at 600 r.p.m. The booster station is entirely automatic and requires shutting down every third day for oiling and greasing. Safety switches prevent the developing of too much pressure on the line and the engine will also shut off in case of a sudden drop in pressure; oil, water and exhaust temperature safety switches prevent any damage to the engine. All flywheels and other potentially



Subsurface map of the region

dangerous points around the booster plant are amply guarded.

Well-head pressures at the start of the project varied on different wells from 115 to 472 lb. per sq. in. and averaged 391 lb. per sq. in. over the field; the average pressure is now about 340 lb. per sq. in. Bottom-hole pressure likewise varied from 136 to 511 lb. per sq. in. The bottom-hole pressure, taken periodically on flowing wells and occasionally on pumping wells, shows the downward trend is not as rapid as it was before repressuring began.

At the time the repressure operation was started, wells were ceasing to flow and were being put on the pump; band-wheel and geared powers, rod lines, pumping jacks and tubing were installed. Many wells lacked only the running of rods to complete the pumping arrangement. Since the start of gas injection, very few wells have gone on the pump and some have been taken off. Most of the powers in the field are loaded to a small percentage of their capacity as a result.

During the past year, only two wells ceased flowing and required the hooking up of the pumping equipment; this leaves 69 wells still flowing in the field but these wells produce approximately 50 per cent of the oil. Water was noticed in only two more wells than in the preceding year. Of the wells pumping, 10 fewer wells were producing water at the end of the year than at the start.

In June 1938 both the gas-oil ratio and the field's production leveled off and the variation has been slight, since that time, with the former being approximately 2,450 cu. ft. per barrel and the latter staying close to 140,000 bbl. per month. The gas-oil ratio for the field increased, for a time previous to that, due to a restriction of production and from a study of the gas and oil production curves it has been evident that the gas-oil ratio is highest at restricted rates of production.

Gas-oil ratios were reduced in some cases; in other cases the increases were arrested by the application of back pressure to the casing of pumping wells. Back pressures from 50 to 150 lb. per sq. in. were used to divert the injected gas away from the wells and to reduce the hazard of bypassing of gas to other producing wells. Where it was possible to find a packer seat in flowing wells, the upper gas zones have been shut off by that method; this practice is limited to wells not having large shot holes.

During the winters some trouble has been experienced with the blocking of repressure lines due to the hydrates in the gas dropping out and freezing. The coating of ice gradually builds up on the inside of the line until only a small opening remains; warming of the lines due to a weather change caused the ice to drop off and travel through the line until it came to a valve or sharp turn and where it completely blocked the line. Freezing point of the hydrates is much above the freezing point of water and the temperature does not have to be very low to cause trouble. Anhydrous ammonia has been used in an effort to prevent freezing of the lines but it has not been wholly successful; for emergencies methanol alcohol has been injected. The anti-freeze system is being revamped for the coming winter.

The operation of the repressuring system has been very satisfactory and the investment on the part of the operators has not been very large; it is more than offset by the reduction in lifting costs. The only major item has been the installation and maintenance of the main repressure line which is shared as a community proposition. Operators are free to manage their properties as they see fit and no complicated accounting system is involved. Anyone wishing to withdraw from the project may do so at any time and one operator did so when it was evident that his wells were so located structurally that they received no benefit from his injection well.

The cost of gas per barrel of oil produced is less than 3 cents per barrel. The ultimate recovery per acre in the field has been variously estimated from 2,700 to 5,200 bbl. per acre. The former figure has already been passed and conditions in the field indicate that at the present rate of decline and by the maintenance of the present system of production, the latter figure will be greatly exceeded.

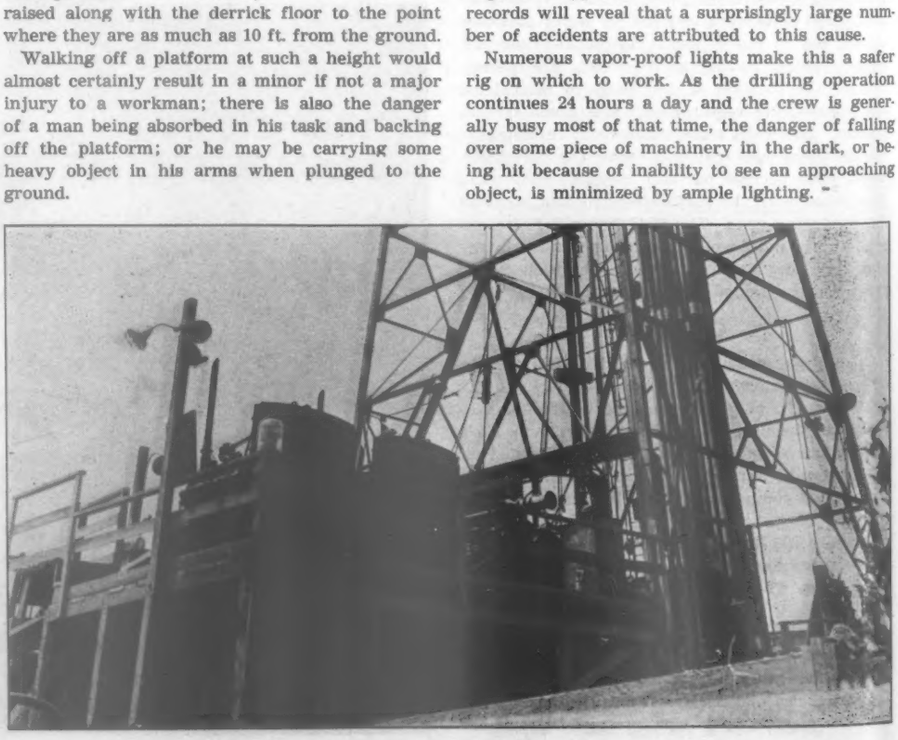
SAFETY — Rail on Motor Platform Protects Workers

Due to the higher pressures encountered in deep drilling and the necessity of installing equipment under the derrick floor capable of handling such pressures, the motor platforms have been raised along with the derrick floor to the point where they are as much as 10 ft. from the ground.

Walking off a platform at such a height would almost certainly result in a minor if not a major injury to a workman; there is also the danger of a man being absorbed in his task and backing off the platform; or he may be carrying some heavy object in his arms when plunged to the ground.

The substantial guard rail around the platform shown in the accompanying picture eliminates any chance of this type of accident. It is a very important type, as examination of the accident records will reveal that a surprisingly large number of accidents are attributed to this cause.

Numerous vapor-proof lights make this a safer rig on which to work. As the drilling operation continues 24 hours a day and the crew is generally busy most of that time, the danger of falling over some piece of machinery in the dark, or being hit because of inability to see an approaching object, is minimized by ample lighting. "



Progress in METALS

By W. L. NELSON

Machine Flame Cutting

A relatively new method of fabrication referred to as machine flame (or gas) cutting is developing at a rapid rate. The method consists primarily of cutting flat "shapes" out of steel sheet, slabs, billets, and forgings by means of a machine-directed oxyacetylene torch. Such "shapes" can also be cut by hand-operated cutting torches, by machining, and by punching or stamping, but the machine is more accurate than hand cutting and is far cheaper than machining or punching unless only a few plates are to be cut or unless mass production is feasible. Obviously, punching or stamping is the cheapest method if a sufficiently large number of parts is made to justify the high first cost of a special punching machine.

Thus, by machine flame cutting, it is possible to make intricate plate shapes at a low cost; these flat parts can then be assembled by welding into machine frames, boxes, carriages, plateware, bed plates, etc. The precision of cutting can be held to less than 1/32 in. and hence the subsequent welding of the plate parts can be accomplished with a minimum of weld metal.

Applications

The Bethlehem Supply Corp. shop at Tulsa, is employing large machine-cutting equipment manufactured by the Air Reduction Sales Corp., for making the frames of oil-well pumping jacks and other oil-field machinery. In some respects plate fabrication is encroaching on the field of castings because of the greater precision and dependability of the plate-fabricated equipment. For some large loose-fitting gears, Bethlehem has found that gears, or more properly sprockets, made by machine flame cutting are more satisfactory than cast sprockets because of the greater precision and dependability of the flame-cut steel gear. In large castings, difficulty is encountered in shrinkage and in uniformity throughout the material. Thicknesses up to 16 in. can be flame-cut at the Bethlehem plant, and the flame-cutting machine is equipped to carry four torches. This permits the cutting of four pieces at a time.

A fabricator in Oklahoma City is also using a flame-cutting machine in the manufacture of radiators for cooling the water in its pumping engines. Allsteel-Products Co., Wichita, Kans., is using a large flame-cutting machine for making much of its pipe-line laying equipment, such as sprockets, pipe-bending equipment, and drum flanges. It has been estimated that at least 50 oil-equipment manufacturers in the Southwest are using flame cutting as a method of fabrication and about 30 are employing flame-cutting machines.

Construction of Machines

Flame-cutting machines consist of a stationary frame which supports a movable pantograph system of levers. One end of the pantograph system carries a torch over a plate-cutting table whereas the other end of the pantograph lever system carries a guide roller which may be moved over a flat tracing table. Thus, the operator can actuate the tracing roller around any shape of pattern on the tracing table and the cutting torch will travel in a like path over the stock which is supported on the cutting table. Manual operation of this type is far better than ordinary hand cutting, but if greater accuracy is desired, an automatic electrically controlled method of following the pattern is preferred. To practice automatic tracing it is necessary to prepare a pattern, template or cam of the desired shape. The templates are made of ⅜ to ½-in. steel plate, and are not difficult or expensive to prepare except that care must be taken to produce a smooth edge that is perpendicular to the plate. An automatic roller or tracer follows around the edge of the template being held in contact with the edge by magnetic or other means. This method of tracing is more accurate than can be accomplished by a skilled operator who pushes the tracer around the pattern.

From the above discussion, it is obvious that several torches can be carried on a single system of levers and thus as many as six pieces can be cut simultaneously while tracing the template only once. Likewise, when working with thin plate, it is possible to cut a stack of plates in a single cutting operation. As many as 16 ½-in. plates or 80 16-gage sheets have been stacked and cut in a single operation. The thicker sections require the use of a torch which has a larger oxygen port because cutting occurs primarily by combination of the steel with oxygen.

Summary

The greater precision that is possible with machine flame cutting discloses a vast new field in the fabrication of sheet or plate into machinery or stationary structures. It even threatens to seriously invade the field of iron and steel castings. Finally, it will permit the building of a large amount of equipment which is made in relatively small lots, it thus fills a need that cannot be filled by hand flame cutting or by mass-scale punching operations.

It appears that this innovation in fabrication methods, which only began to be of importance about 5 years ago, may revolutionize the manufacturing and fabrication of steel equipment. In addition to its relative cheapness; the greater dependability of wrought steel as compared with cast iron or cast steel; and the thinner sections of steel that may be used as compared with cast iron, this method of fabrication involves great flexibility. The design of a product may be changed in only the time required to change the drawing (or template) and adjust the machine, and any product (or shape) can be made on a single cutting machine simply by making a new template.

Courtesy Linde Air Products Co.

Courtesy Air Reduction Sales Co.

Above: Machine flame-cutting torch being used to cut a stack of 12 plates at one time. Left: Machine flame cutting using four torches mounted on a single No. 20 Travograph

Illium for Corrosion Resistance

The alloy called illium, having been discovered and developed by Prof. S. W. Parr, of the University of Illinois, about 20 years ago, is now available in rolled forms and in the form of wire and welding rod, in addition to castings and many special forms. These and other information are discussed in Bulletin 103 of the Burgess-Parr Co, Freeport, Ill.

Illium "G" contains about 56 per cent nickel, 24 per cent chromium, 8 per cent copper and 4 per cent molybdenum. It resists most inorganic acids and salts, but is not recommended for chlorine unless it is dry, or for hydrochloric acid or chlorides unless the concentration is low.

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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Yield of Oil From Some Types of Coal by Distillation

Coal is mentioned as a possible source of oil and motor fuel from coal. What kind of coal contains oil and how much per ton is it possible to obtain?—T. H. R.

The United States Bureau of Mines has reported in several publications investigations of shales and certain coals for possible sources of oil. These minerals do not contain oil as such, the oil being formed by heat treatment of the crushed material in a retort, from which the hydrocarbon liquid is obtained as a distillate.

Several types of coal, including lignite, bituminous and subbituminous forms have been tested, as mined from deposits on, or adjacent to, the public lands in Colorado, Montana, North Dakota, New Mexico, South Dakota and Wyoming.

The loss on carbonization, which includes the oil, gas and water given off during retorting ranges from 28.7 to 64 per cent. Coals showing greatest losses on carbonization contained the highest percentages of water. The lowest yield per ton of coal is 1.9 gal. and the highest 32.2 gal. The proximate analyses of the high oil-yielding and the lowest are shown in the table.

ANALYSES OF OIL-YIELDING COALS

		Proximate Analysis (Moisture-free basis)				
Type		Oil yield, gal.	Volatile matter	Fixed carbon	Ash	Sulfur
1	Bituminous	32.2	38.9	51.8	9.3	0.9
2	Lignite ..	1.9	37.6	48.6	13.8	0.7

The No. 1 coal shows a B.t.u. value of 13,380, yielding 34 gal. including scrubber naphtha, per ton. The No. 2 type shows 9,880 B.t.u. and total yield of liquid hydrocarbons 8.8 gal. Both are calculated on the dry basis.

The average crude-oil or tar yield of 14 lignites was 5 gal. per ton, and 16 coals gave an average yield of 12.9 gal. The average yield of scrubber naphtha was 1.4 gal. per ton. The crude oils produced from coals had an average specific gravity of 1.009 and were difficult to separate from the water produced with them. The residue remaining in the retort was not coke but probably could be classified as char.

Reference: Joseph W. Horne and Arthur D. Bauer, Comparison of Oils Derived From Coal and From Oil Shales, U. S. Bureau of Mines, R. I. No. 2832, Oct. 1927.

Wax Determination With Acetone-Methylene Chloride Solvent

Could you furnish the directions for the separation of wax from crude oil by what is called the Bureau of Mines' Special Method? This is a laboratory method for estimating the percentage of wax in oil.—D. L. S.

Horne and Holliman of the U. S. Bureau of Mines described a method for the solvent analytical separation of wax from oil in a technical bulletin issued in 1938. After a series of studies of solvent, mixtures of acetone and methylene chloride were found to give good results. This is probably the method desired, as we know of no procedure designated Bureau of Mines' Special Method. The material following has been abstracted from the reference.

Solvent and Apparatus—Acetone and methylene chloride are miscible in all proportions; in ratios by volume of 1 to 1, 3 to 2, 7 to 3, and 4 to 1 gave broad temperature ranges for separating waxes of various melting points. The methylene chloride acted as the selective solvent for oil and the acetone decreased the solubility of the wax.

The chilling apparatus consisted of an insulated tank containing four cylindrical wells for cooling the filter tubes. Kerosene was the bath medium, cooled with solid carbon dioxide, circulated as the refrigerant. The filter tubes were about 200 cc. capacity with a 200-mesh screen as a filter, and a cork on a rod to serve as a plug for the opening.

Procedure—Enough sample should be used to yield 3 to 5 g. of wax. The weighed sample is dissolved in a quantity of properly proportioned solvent, determined by preliminary tests to yield the desired quantity of wax, poured into the plugged tube, which is then placed in the well and chilled to the desired temperature. The plug is then pulled, and the oil solvent drained from the wax, washed with fresh solvent of the same temperature as the wax. The filter tube is removed from the well, the wax dissolved through the filter with hot solvent and the solvent evaporated on a steam bath from both the extracted oil and the wax; last traces removed by vacuum.

The separated wax and oil are then weighed, and the percentage recovery calculated.

Reference: J. W. Horne and W. C. Holliman, A Study of a Solvent Analytical Separation of Waxes From Petroleum and Its Lubricating Fractions, U. S. Bureau of Mines, Technical Paper 583, 1938.

Physical and Chemical Laws and Principles Used in the Petroleum Industry

VAN DER WAALS EQUATION

(Modification of Standard Gas Laws)

The free space in which molecular movements can take place must be slightly restricted by the vibrating volumes of the atoms: also, the attraction which exists between the gaseous molecules is weakened by the distance across which it acts. Molecular attraction may be compared with cohesion or surface tension.

Van der Waals acknowledged the existence of the force of molecular attraction which, assisted with external pressure, tends to stop the expansion of a gas and limit its volume. He assumed this force is inversely proportional to the square of the volume and proposed the following general equation for correcting the volume and pressure of a gas:

$$\left(p + \frac{a}{v^2}\right)(v - b) = RT$$

Here p and v are the pressures, in atmospheres, and volume at any constant temperature. R is the gas constant and T absolute temperature. R, a and b may be found in the standard tables.

Scale of Hardness for Minerals, Elements and Metals

Will you kindly give us the table of hardness used for testing various minerals, elements, and metals? We believe these substances are compared with a set of specimens which are arranged on a scale of 1 to 10, the hardest being 10.—T. N. O.

The hardness of minerals, elements, and metals cannot be indicated by one system. The table of 10 minerals is convenient for testing the hardness of rocks and minerals. Some years ago the Smithsonian Institution published a table in which the elements were arranged for hardness by the same system. The practice today is for the metallurgist to indicate hardness of a metal by the Brinell number.

Minerals and rocks may be classified for hardness by comparing them with known specimens as shown in the table. Talc is the softest and diamond the hardest.

SCALE OF HARDNESS FOR MINERALS

Scale No.	Mineral	Composition
1	Talc	$Mg_3H_2(SiO_3)_4$
2	Gypsum	$CaSO_4.2H_2O$
	Salt	NaCl
3	Calcite	$CaCO_3$
4	Fluorspar	CaF_2
5	Apatite	$Ca_5F(PO_4)_3$
6	Feldspar	$KAlSi_3O_8$
7	Quartz	SiO_2
8	Topaz	$Al_2(F.OH)_2SiO_4$
9	Corundum	SiC
10	Diamond	C

Relative hardness is determined by the scratch test. Fluorspar will scratch calcite, but calcite will not scratch fluorite.

The hardness of the elements, as arranged by the Smithsonian Institution, is indicated in the next table.

HARDNESS OF THE ELEMENTS

Scale No.	Element	Symbol	Scale No.	Element	Symbol
10	Carbon (diamond)	C	2.5	Gold	Au
9.5	Boron	B	2.3	Tellurium	Te
9.0	Chromium	Cr	2.0	Cadmium	Cd
7.0	Osmium	Os	2.0	Sulfur	S
7.0	Silicon	Si	2.0	Selenium	Se
6.5	Iridium	Ir	2.0	Magnesium	Mg
6.5	Ruthenium	Ru	1.8	Tin	Sn
5.0	Manganese	Mn	1.8	Strontium	Sr
4.8	Palladium	Pd	1.5	Calcium	Ca
4.5	Iron	Fe	1.5	Gallium	Ga
4.3	Platinum	Pt	1.5	Lead	Pb
3.5	Arsenic	As	1.2	Indium	In
3.0	Copper	Cu	0.6	Lithium	Li
3.0	Antimony	Sb	0.5	Phosphorus	P
2.9	Aluminum	Al	0.5	Potassium	K
2.7	Silver	Ag	0.4	Sodium	Na
2.5	Bismuth	Bi	0.3	Rubidium	Rb
2.5	Zinc	Zn	0.2	Caesium	Cs

The hardness of metals is indicated by Brinell numbers, obtained from a test in which a steel ball of extreme hardness, measuring 1 cm. in diameter, is pressed into the metal. The number is the quotient of the pressure and the area of the indentation. A very hard metal may have a Brinell number of 600 or higher.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired, postage should be included.

The most contented railroad passenger is the one made most comfortable. Timken Roller Bearings effect comfort for the traveling public such as it never before experienced.

The most contented railroad executive is the one who sees operating costs decline—volume increase. Timken Bearings effect economies, maintain schedules, eliminate hot boxes and old time troubles as never before. This is definitely proven by the highly efficient performance of Timken Roller Bearings, now on most of America's newest streamliners and latest locomotives.

That means Miles of Smiles for everyone.

The soundest dollar for dollar investment the American railroads can make is to equip all rolling stock, old and new—passenger cars, locomotives and freights—with Timken Bearings. Costs come down tremendously—volume shoots up—vastly improved all around operation is the gratifying result. Miles of Smiles for everyone!

NOTICE

Look for the trademark TIMKEN on every bearing, whether buying new equipment, or replacing a Timken Bearing in your automobile, or truck, industrial or farm machinery. That trademark is your assurance of quality.

TIMKEN
RAILWAY ROLLER BEARINGS

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

This advertisement appears in The Saturday Evening Post for September 9th. Miles of Smiles for every manufacturer and user of Timken Bearing Equipped products.

Mid-Continent Crude Runs to Stills Will Be Curtailed in September

Estimated daily crude runs in the Mid-Continent area totaled 550,830 bbl. for September, compares with 556,095 bbl. in August. This decrease of 5,265 bbl. reflects the attitude of the majority of refiners to hold down runs to meet the demand for finished products. Crude runs 1 year ago in September were 555,695 bbl. daily, the highest for 1938.

Oklahoma-Kansas

Oklahoma refiners, with a total of 155,520 bbl. daily scheduled for September, a decrease of 2,800 bbl., report reductions in runs at most plants. Cities Service Oil Co. at Ponca City cut its daily crude runs to still from 10,000 bbl. in August to 9,000 bbl. in September and Barnsdall Refining Co., at Barnsdall, from 5,000 bbl. in August to 4,500 bbl. in September. Other reductions in crude runs were made at the Phillips refinery at Muskogee, the Sun Oil Co. at Yale, and the Bell Oil & Gas Co. plant at Granfield.

Individual reports from Kansas refineries indicate an effort to hold inventories to an economic level as crude runs were lowered generally throughout the state. Among the largest refineries, Socony-Vacuum cut its runs to stills from 17,500 bbl. in August to 13,000 bbl. during September. Other refineries reducing operations are: Derby Oil Co., at Wichita, from 6,800 to 7,500 bbl.; El Dorado Refining Co., Eldorado, from 5,000 to 4,500 bbl.; Socony-Vacuum Oil Co., Augusta, from 17,500 to 13,000 bbl., and the Phillips Petroleum plant at Kansas City from 16,450 bbl. to 15,700 ft. The Roper Petroleum Co. plant at Parsons is reported to be shut down.

East Texas

While most East Texas refineries will show a greater daily average throughput during September, the estimated amount is not greatly in excess of the period when the field was shut in. Several plants were on the verge of shutting in due to lack of crude, but with few exceptions they remained in operation until the period ended. The estimated total for September is 51,000 bbl., an increase of 2,300 bbl. compared with August. The Lynch Refining Co. is the new owner of the Kilgore plant formerly operated by the Lacy Refining Co. M. M. Travis is adding an Ethyl blending unit to the Travis refinery at Kilgore, formerly owned by the Southport Refining Co. The Gladewater plant of the Trinity Refining Co., which was shut down for several months, has been dismantled.

North Louisiana

In the North Louisiana area crude runs gained 1,600 bbl. over last month. Most of this increase was due to the Texas Co. reopening its plant at Shreveport and it is reported will be run until October 1. The Pennant Refining Co. began operations on a small lube plant in the Bellevue field at Princeton the first week in September processing 500 bbl. of crude daily. In Arkansas the Root Refining Co. at El Dorado increased crude runs 580 bbl. daily while the Berry Asphalt Co. plant at Waterloo lowered crude runs 300 bbl. daily. The total estimated daily runs to stills is reported as 28,230 bbl., compared with 27,950 bbl. for last month.

West Texas

In West Texas and Panhandle and Southwest Texas areas, refiners have curtailed crude schedules somewhat for September, the former having an estimated total for the month of 86,500 bbl., compared with 86,900 in August and the latter 18,100 bbl. in September and 18,200 bbl. in August.

Estimated daily crude runs in the North Central Texas area are down slightly compared with last month. Several plants report a reduction in crude runs during September, bringing the total for the month to 38,580 bbl., compared with 39,075 bbl. in August.

Mid-Continent Crude Runs

Average Daily Barrels

(Advance estimate compiled by The Oil and Gas Journal)

	1937	1938	1939
January	531,535	529,710	503,405
February	541,790	507,985	494,910
March	533,875	491,935	497,180
April	558,385	532,120	523,535
May	572,855	527,315	534,535
June	593,625	540,005	541,090
July	605,640	557,520	550,755
August	624,475	554,810	556,095
September	625,485	555,695	550,830
Ocober	619,210	531,325	.....
November	592,170	524,035	.....
December	544,040	503,530	.....

Operations by Refinery Districts

Daily crude runs

	Sept.	August	Incr.
Arkansas	28,230	27,950	280
East Texas	51,000	48,700	2,300
Kansas	127,800	133,450	*5,650
N. Central Texas	38,580	39,075	*495
North Louisiana	45,100	43,500	1,600
Oklahoma	155,520	158,320	*2,800
Southwest Texas	18,100	18,200	*100
W. Texas Panhandle	86,500	86,900	*400
Total	550,830	556,095	*5,265

*Decrease.

Estimated Daily Average Mid-Continent Refinery Crude Runs for September

OKLAHOMA

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Anderson-Prichard Ref. Corp., Cyril	7,500	6,500	6,500
Barnsdall Ref. Corp., Barnsdall	5,000	4,000	4,000
Bell Oil & Gas Co., Granfield	5,000	2,660	3,000
Ben Franklin Ref. Co., Ardmore	4,000	3,500	3,500
Black Gold Ref. Co., Oklahoma City	2,500	1,800	1,800
Champlin Ref. Co., Enid	16,000	15,000	15,000
Cities Service Oil Co., Okmulgee	4,000	(*)	(*)
Cities Service Oil Co., Ponca City	12,000	9,000	10,000
Continental Oil Co., Ponca City	28,000	21,000	21,000
Cosco Oil Co., Wynnewood	2,500	(*)	(*)
Cushing Ref. & Gasoline Co., Cushing	4,200	4,000	4,000
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Eason Oil Co., Enid	3,000	(*)	(*)
Johnson Oil Ref. Co., Cleveland	6,000	5,000	5,000
Mid-Continent Pet. Corp., West Tulsa	35,000	21,000	21,000
Ohio Oil Co., Bristow	5,000	2,500	2,500
Omar Ref. Co., Garber	5,000	2,700	2,500
Phillips Pet. Co., Okmulgee	6,000	4,300	5,320
Peppers Gasoline Co., Oklahoma City	500	400	400
Pure Oil Co., Muskogee	9,000	(*)	(*)
Rock Island Ref. Co., Beckett	6,500	6,000	6,000
Sinclair Ref. Co., Sand Springs	6,000	4,500	4,500
Sun Oil Co., Yale	5,000	1,500	1,800
Sunray Oil Co., Allen	7,000	3,660	5,000
Texas Co., West Tulsa	16,000	11,000	11,000
Tide Water Oil Co., Drumright	12,000	12,000	11,000
Wilcox Ref. Division, Bristow	5,000	4,500	4,500
Total	227,700	155,520	158,320

*Shut down.

KANSAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Anco Ref. Co., Garnett	500	450	450
Barnsdall Ref. Co., Wichita	5,000	4,500	5,000
Bay Pet. Co., McPherson	4,000	3,000	3,000
Chanute Ref. Co., Chanute	1,000	1,000	1,000
Derby Oil Co., Wichita	8,000	7,500	6,800
El Dorado Ref. Co., Eldorado	5,000	4,500	5,000
Falcon Ref. Co., Inc., Great Bend	1,000	1,200	1,000
Globe Oil & Ref. Co., McPherson	15,000	15,000	15,000
Kanotex Ref. Co., Arkansas City	12,000	6,000	5,500
National Ref. Co., Coffeyville	8,000	5,000	5,000
Pet. Products Co., Chanute	1,250	1,750	1,750
Phillips Pet. Co., Kansas City	23,000	15,700	16,450
Roper Pet. Co., Parsons	750	(*)	550
Shallow Water Ref. Co., Scott City	2,500	1,000	1,000
Sinclair Ref. Co., Coffeyville	12,000	8,500	8,500
Sinclair Ref. Co., Argentine	11,000	8,500	8,500
Skelly Oil Co., Eldorado	23,000	20,000	20,000
Socony-Vacuum Oil Co., Inc., Augusta	20,000	13,000	17,500
Standard Oil Co., (Indiana), Neodesha	7,500	7,000	7,000
United Ref. Co., Russell	1,200	700	700
Vickers Pet. Co., Potwin	4,000	3,500	3,750
Total	165,700	127,800	133,450

*Shut down.

NORTH LOUISIANA

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Arkansas Fuel Oil Co., Bossier City	25,000	18,000	18,000
Atlas Pipe Line Co., Shreveport	12,500	6,000	5,500
Bayou State Oil Corp., Hosston	750	600	600
East Texas Ref. Co., Sandra	7,000	(*)	(*)
Pennant Ref. Co., Princeton	750	500	....
Premier Oil Ref. Co. of Texas, Cotton Valley	3,500	2,800	2,700
Rodessa Oil & Ref. Corp., Cedar Grove	12,000	8,500	10,000
Stanolind Oil & Ref. Co., Superior	5,000	2,200	2,200
Texas Co., Shreveport	7,000	6,500	4,500
Total	74,300	45,100	43,500

*Shut down.

ARKANSAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Berry Asphalt Co., Waterloo	2,000	1,200	1,500
Henry H. Cross, Smackover	6,000	3,500	3,500
Lion Oil Ref. Co., El Dorado	17,000	13,000	13,000
Macmillan Pet. Corp., Norphlet	2,500	2,000	2,000
Root Ref. Co., El Dorado	10,000	8,330	7,750
Stephens Ref. Co., Stephens	700	200	200
Total	38,200	28,230	27,950

NORTH CENTRAL TEXAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Baird Refining Co., Baird	1,500	1,200	1,200
Bryson Pipe Line & Refining Co., Bryson	2,000	1,250	1,250
Bryson Ref. Co., Inc., Bryson	1,500	800	800
Coleman Ref. Co., Coleman	1,000	400	400
Continental Oil Co., Wichita Falls	6,000	4,680	5,000
Cosden Pet. Corp., Graham	2,000	600	600
Falls Ref. Co., Wichita Falls	2,500	500	500
Gratex Ref. & Fuel Oil Co., Graham	300	300	300
Gulf Oil Corp., Fort Worth	8,000	6,000	6,000
Hightower Oil & Ref. Corp., Brownwood	750	(*)	(*)

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Jacksboro Ref. Co., Jacksboro	400	250	250
La Salle Pet. Corp., Burkburnett	3,000	1,000	1,000
Magnolia Pet. Co., Fort Worth	7,500	5,200	5,200
Muenster Ref. Co., Muenster	1,800	1,000	800
North Texas Reg. Co., Gainesville	600	300	300
Ohio Oil Co., Fort Worth	5,000	4,000	4,000
Olney Oil & Ref. Co., North Olney	3,500	1,800	2,000
Paluxy Asphalt Co., Mankins	1,500	1,200	1,200
Panhandle Ref. Co., Wichita Falls	4,200	2,500	2,700
Panhandle Ref. Co., Leuders	1,500	900	875
Taylor Ref. Co., Taylor	1,000	600	600
Texas Pacific Coal & Oil Co., Caddo	800	600	600
Tucker Oil Co., Burkburnett	250	(*)	(*)
W. T. Waggoner Est., Vernon	4,000	3,500	3,500
Total	60,600	38,580	39,075

*Shut down.

EAST TEXAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Beacon Oil & Ref. Co., Henderson	4,500	(*)	(*)
Danciger Refs., Inc., Longview	6,000	(*)	(*)
East Texas Ref. Cor., Longview	6,000	5,000	4,600
Hurricane Pet. Corp., Overton	5,000	3,700	3,700
Hurricane Pet. Corp., Arp	3,300	2,800	2,800
Lynch Ref. Co., Kilgore	3,000	2,200	2,200
Magnolia Pet. Co., Corsicana	5,000	4,500	4,500
McMurrey Ref. Co., Tyler	10,000	4,900	4,800
Model Oil & Ref. Co., Kilgore	2,000	2,500	1,300
Paluxy Asphalt Co., Talco	5,000	2,500	2,500
Premier Oil Ref. of Texas, Greggtown	4,000	2,800	2,900
Talco Asphalt & Ref. Co., Mount Pleasant	7,500	5,000	5,000
Texas Co., Dallas	16,000	8,000	8,000
Texas Oil Products Co., Gladewater	3,000	1,500	1,400
Tower Ref. Co., Overton	3,500	(*)	(*)
Travis, M. M., Inc., Kilgore	4,000	3,200	2,500
Tyreco Ref. Co., Arp	3,500	2,400	2,500
Total	91,300	51,000	48,700

*Shut down.

WEST TEXAS AND PANHANDLE

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Aero Gas & Ref. Co., Fort Stockton	350	300	300
Coltex Ref. Co., Colorado	12,500	8,000	8,000
Cosden Oil Co., Big Spring	12,500	11,000	11,000
Danciger Refs., Inc., Pampa	6,500	5,500	5,000
Danube Oil Corp., Borger	800	400	800
Farmers Ref., Lubbock	500	300	300
Gulf Oil Corp., Sweetwater	7,000	6,200	6,200
Howard County Ref. Co., Big Spring	2,000	1,200	1,200
Motor Fuels Corp., Levelland	4,000	1,800	2,000
Moutray Oil Co., Hawley	1,400	750	1,000
Onyx Ref. Corp., Hawley	3,000	1,500	1,800
Panhandle Ref. Co., Kings Mill	2,500	1,300	1,400
Payward Ref. Co., Shamrock	600	500	500
Phillips Pet. Co., Borger	35,000	26,700	25,800
Post Refining Co., Rotan	800	500	500
Shamrock Oil & Gas Corp., Sunray	3,000	2,200	2,250
Stamford Ref. Co., Stamford	450	400	400
Shamrock Oil & Gas Corp., Lefors	1,600	1,000	1,200
Standard Oil Co. of Texas, El Paso	14,000	8,400	8,400
Star Light Ref. Co., Ballinger	1,000	500	500
Texas Co., El Paso	2,000	1,600	1,600
Texas Co., Amarillo	6,000	3,500	3,500
Western Ref. Co., Fort Stockton	1,000	750	750
Wickett Pet. Co., Wickett	3,500	2,200	2,500
Total	122,000	86,500	86,900

SOUTHWEST TEXAS

Company and location—	Daily capacity	Av. dly. runs Sept.	Av. dly. runs August
Border Oil & Ref. Co., Sullivan City	1,000	500	500
Eggleston Oil Products Co., Three Rivers	1,000	1,000	1,000
Humble Oil & Ref. Co., San Antonio	5,000	3,500	3,500
Magnolia Pet. Co., Luling	8,000	5,200	5,200
Majestic Ref. Co., Dale	500	(*)	(*)
Petrus Oil & Ref. Co., Pettus	1,000	900	900
Phoenix Ref. Co., San Antonio	2,000	1,500	1,500
Phoenix Ref. Co., Pettus	900	750	750
Pioneer Oil & Ref. Co., Somerset	2,000	750	750
Rado Ref. & Prod. Co., McAllen	800	500	600
Texas Co., San Antonio	5,000	3,500	3,500
Total	27,200	18,100	18,200

*Shut down.

SUPER FILTROL CONTRIBUTES NEW EFFICIENCY TO CONTACT FILTRATION

With equipment vastly improved and SUPER FILTROL its same *activated* self, the contact refining process reaches a new high in efficiency and achieves a new low in cost.

To be specific, 4/10 of a pound of SUPER FILTROL per gallon on a typical lubricating stock yields almost 97% filtered oil. High quality is assured because SUPER FILTROL enables you to get uniform, pre-determined colors, better coats; improved emulsion and oxidation; lower carbon residues.

Contacting with SUPER FILTROL, costs are reduced to an average of 1.3c per gallon; for example, at a plant processing 500 barrels of Mid-Continent acid treated Bright Stock daily, it was found that only 4.2 tons of SUPER FILTROL were required in a day's operation as compared to 13.15 tons of natural clay previously used. A detailed evaluation disclosed a daily saving of $77.16 or an annual saving of $27,006.00! And it requires but two men per shift to operate a modern 1000 barrel plant!

SUPER FILTROL
MAKES POSSIBLE
Maximum Decolorizing Efficiency
Maximum Filter Rate
Minimum Clay Requirements
Minimum Plant Equipment
PRODUCES
Greater Oil Recovery
Higher Quality Oils
Reduced Refining Costs

Add to this increased yield and decreased costs, the fact that SUPER FILTROL increases thru-put; reduces oil soakage losses and possesses maximum decolorizing qualities, and you will see why SUPER FILTROL is such a boon to contact refining.

Specific inquiries to our Research Laboratory will receive prompt reply. No obligation.

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FILTROL
FILTERING MATERIAL FOR DECOLORIZING & PURIFYING
FILTROL CORPORATION
GENERAL OFFICES: 315 W. FIFTH ST., LOS ANGELES, CALIFORNIA
PLANTS: VERNON, CALIFORNIA; JACKSON, MISSISSIPPI

Rocky Mountain Area

Production estimates for week ended September 9:

WYOMING

	Barrels
Salt Creek	14,470
Big Muddy	1,210
Dallas Derby	420
Elk Basin	560
Frannie	1,890
Garland	2,740
Grass Creek	1,430
Hudson	260
La Barge	910
Lance Creek	20,210
Lost Soldier	1,850
Mahoney	320
Medicine Bow	1,710
Mule Creek	200
Oregon basin	2,970
Osage	800
Quealy dome	580
Rock River	2,640
Wertz	2,200
Miscellaneous	610
Total Wyoming	57,980

MONTANA

Border	90
Cat Creek	560
Cut Bank	9,900
Dry Creek	880
Kevin-Sunburst	4,180
Pondera	720
Total Montana	16,330

COLORADO

Florence	140
Fort Collins and Wellington	250
Wilson Creek	330
Iles dome	1,900
Moffat	240
Rangely	40
Tow Creek	160
Price	540
Total Colorado	3,600

NEW MEXICO

Cooper	3,660
Eaves	760
West Eunice	60
Eunice	19,270
Hardy	3,350
Hobbs	11,100
Jal	550
Langlie	4,600
Lynch	430
Lynn	820
Mattix	4,360
Monument	20,080
North Lynch	30
Penrose	4,670
Rhoades	130
Skaggs	90
Skelly	1,580
South Eunice	3,570
South Lovington	550
Vacuum	9,410
Artesia-Maljamar	9,780
Getty	100
Hogback	200
Rattlesnake	450
Table Mesa	90
Total New Mexico	99,690
Total Rocky Mountain area	177,600

FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—A productive spot ¾ mile northeast of the Gray pool, Pottawatomie County, was opened. A 2,647-bbl. well was completed in the Fitts district, Pontotoc County, in which activity has increased in recent weeks. A Kingfisher County wildcat was showing heavy gas with some oil, and a Cleveland County wildcat had oil showing on drill-stem test.

KANSAS—The long record of discoveries in Kansas was interrupted in the past week. Six wildcat completions were dry and abandoned. Two oil wells were completed for maximum allowable potentials of 2,500 bbl. daily in the Hittle pool, Cowley County. A well equidistant from the Bemis and Shutts pools, Ellis County, apparently has linked the two areas. Extensions were indicated for the West Ellinwood and Prusa pools, Barton County, and Bornholdt pool, McPherson County.

MISSISSIPPI—The first oil well completed in Mississippi gaged 93 bbl. in 12 hours, but on a second gage produced somewhat less. The well is south of the city of Yazoo, in Yazoo County. Two offsets will be started without delay.

TEXAS: Gulf Coast—No new pools, but a number of extensions, are recorded on the Texas side.

Southwest Texas—Field extensions and new sand discoveries were features. A 5,000-ft. extension to the Colorado field in Jim Hogg County was made by a 435-bbl. well.

West Texas—In Pecos County an offset to the Ordovician-lime discovery well in the Masterson pool flowed 1,000 bbl. in 10 hours. Free oil showing in a Reeves County wildcat in the Delaware formation at 4,983 ft., was of interest. Schleicher County's second pool opener, 2½ miles northwest of El Dorado, gaged 105 bbl. a day. Fifteen wells were completed in the Wasson-Bennett-Denver field.

North Texas—Only 1 mile of undrilled acreage separates the Hull-Silk and Sikes pools in Archer County, which, if joined, will make one of the largest pools in area in Texas. Another link was added in the past week. The second well in the new Rogers pool, west of Nocona in Montague County, flowed 124 bbl. of oil in 90 minutes. The new pool opener, 4 miles west of the Burns pool in Clay County, gaged 107 bbl. of oil and 10 bbl. of water in 24 hours.

Eastern Texas—Eight wildcat locations were made in the eastern counties. Ten oil wells were completed in the East Texas field.

ILLINOIS—Two Devonian-lime wells in the Sandoval area north of Centralia flowed 4,500 bbl. and 4,765 bbl. per day, respectively. Seventy-three oil wells were completed and 88 new operations started in the state.

LA-ARK-TEX—In southern Louisiana the La Fourche Crossing prospect in La Fourche Parish was being added to the productive list. A 302-bbl. well opened production on the south flank of the Henderson dome in St. Martin Parish. The Golden Meadows field in La Fourche Parish was extended 2,000 ft. by a new sand discovery good for 355 bbl. a day. North Tepetate field in Acadia Parish was extended.

Completions in All Fields

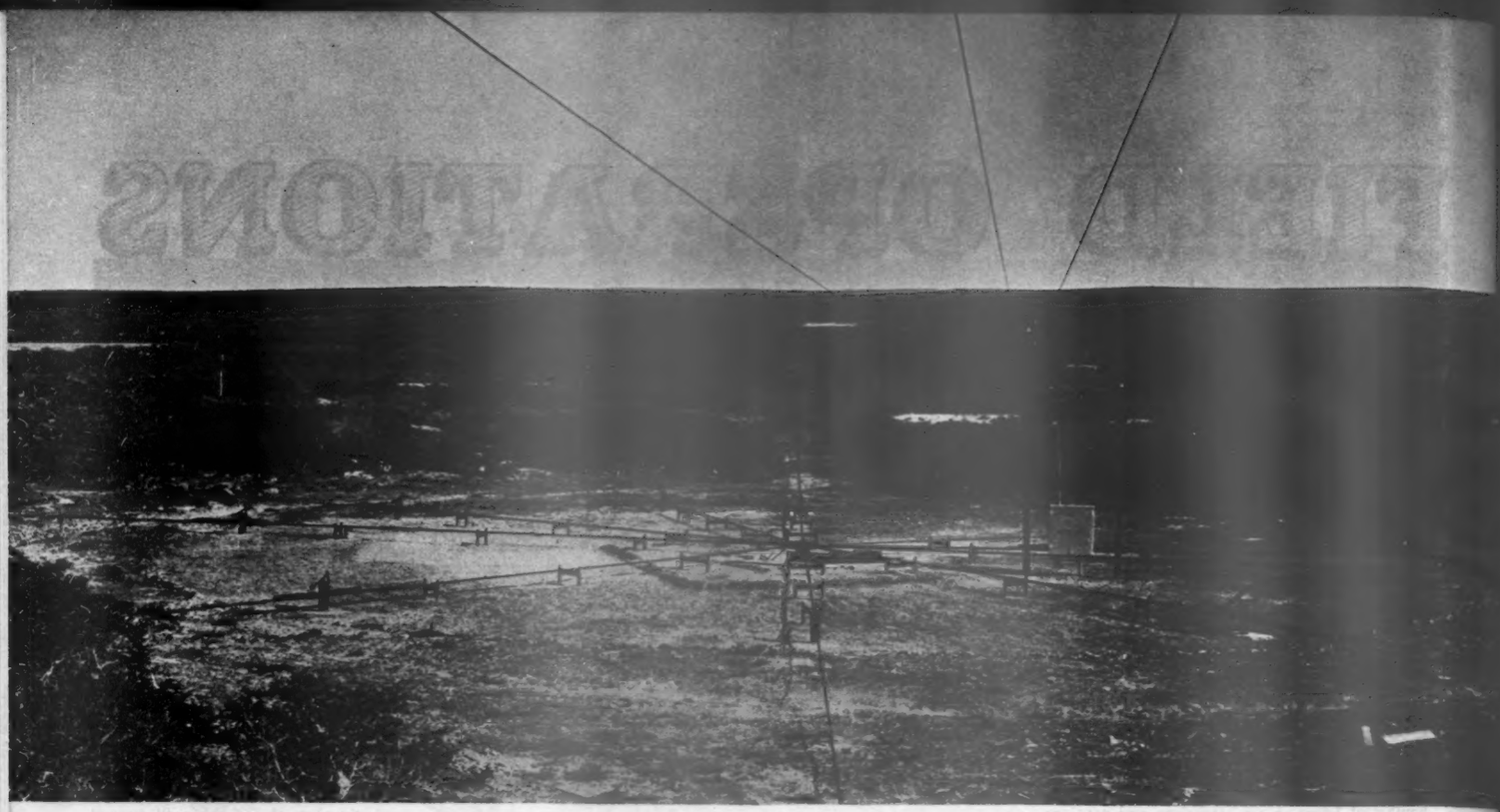
(Week Ending September 9, 1939)

	Oil	Gas	Dry	Total	1939 total comp. to date	1938 total comp. to date
N. Y., Pa., and W. Va.	40	21	5	66	2,183	2,644
Ohio	7	11	5	23	662	684
Indiana	8	1	4	13	187	68
Kentucky	4	0	6	10	476	613
Illinois	73	0	16	89	2,442	971
Michigan	15	2	11	28	962	576
Kansas	17	3	9	29	856	1,129
Oklahoma	17	0	4	21	1,238	1,215
Texas:						
North Central Texas	34	1	14	49	1,649	2,230
West Texas	38	0	2	40	1,265	1,375
Texas Panhandle	9	0	0	9	273	408
East Texas	8	0	1	9	311	1,383
East Central Texas	5	1	2	8	189	248
East Texas Border	1	0	0	1	49	102
Gulf Coast Texas	23	2	6	31	926	924
Southwest Texas	12	0	8	20	1,576	1,448
Total Texas	130	4	33	167	6,238	8,118
North Louisiana	4	2	4	10	362	450
Gulf Coast Louisiana	23	0	4	27	424	329
Total Louisiana	27	2	8	37	786	779
Arkansas	8	1	0	9	185	165
Montana	3	0	0	3	111	68
Wyoming	4	1	1	6	84	108
Colorado	0	0	0	0	8	8
New Mexico	8	0	0	8	403	392
California	15	0	3	18	639	922
Total United States	376	46	105	527	17,460	18,460
Total previous week	254	54	110	418		
Week ending Sept. 10, 1938	316	47	122	485		

Outstanding Fields—Highlights

(Week Ending September 9, 1939)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	15	42	11	5,799	1,122	25,100
Wasson-Bennett	22	62	15	14,795	407	18,310
Ector County	23	67	9	9,607	1,817	54,950
Pecos County	16	34	3	165	1,183	36,798
Jones County	6	22	3	4,053	561	9,000
East Texas	8	25	10	461	26,079	383,897
OKLAHOMA						
St. Louis	8	24	4	2,235	881	20,250
KANSAS						
Barton County	3	17	2	1,667	478	6,230
Ellis County	4	20	4	3,081	417	6,110
Rice County	7	27	2	487	1,345	15,275
Russell County	7	30	2	1,112	1,302	12,788
NEW MEXICO						
Lea County	7	56	4	859	2,233	89,160
LA-ARK-TEX						
Magnolia, Ark.	2	13	6	2,325	62	11,900
Cotton Valley, La. (deep)	1	9	0	0	137	10,415
MICHIGAN						
Kent County	4	56	8	2,998	117	8,429
Van Buren County	4	20	0	0	272	13,318
CALIFORNIA						
Wilmington	3	22	2	408	702	86,400
ILLINOIS						
Salem	6	70	31	6,596	1,265	193,101
Louden	10	69	14	2,400	1,051	55,078
Other basin fields	19	213	28	16,795	1,602	64,913
Old fields	....	.....		.....	.....	7,700

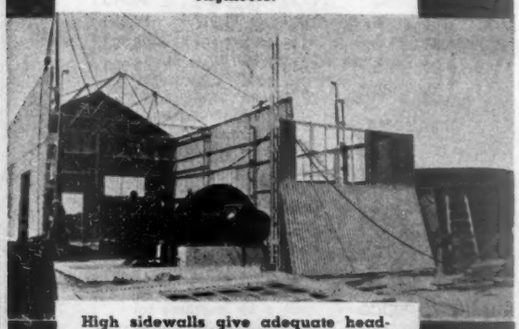


Coordinated Engineering and Construction

Supplied by Continental

to meet Pumping Problem of COX & HAMON

Skilled workmen are supervised at every step by competent Continental engineers.



High sidewalls give adequate headroom for ventilation and easy accessibility.

Substantial foundations are neatly constructed on the Cox and Hamon installation to furnish a pleasing appearance.

An excellent example of Continental's complete coordinating service is the Continental-equipped properties of Cox and Hamon in Duval County, Texas. Now, after a year's successful operation, the soundness of the fundamental design is increasingly appreciated.

Through its affiliated manufacturing companies, Continental has at its command numerous engineering organizations experienced in the manufacture of oil field equipment. Making the most of this unusual asset, The Continental Supply Company coordinates the efforts of these manufacturers to a common end, thus affording a complete service in the production of gas and oil.

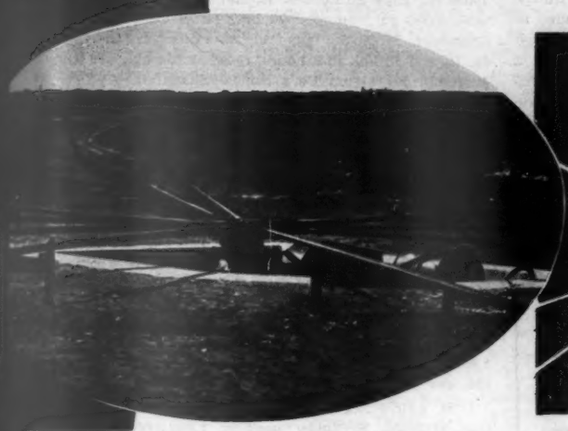
The proper installation of correctly selected equipment to meet both present and future requirements enhances its value to the owner. Careful attention to such detail is always the watchword in Continental service — affording you extra value without extra cost.

THE CONTINENTAL SUPPLY COMPANY
DALLAS, TEXAS

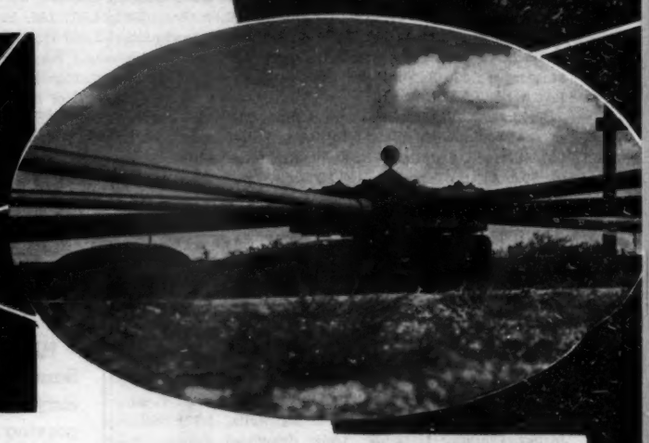
Serving the Oil and Gas Industries

CONTI

Continental-Falk 4-well hookup used for pumping outlying wells.



Continental-Falk Geared Powers are adaptable to an inclined installation.



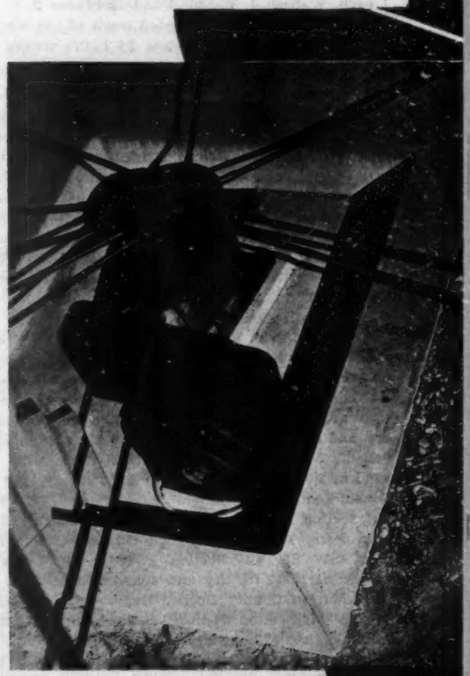
Note oil flow tell-tale—another exclusive Continental-Falk feature.

CONTINENTAL-FALK

Geared Powers... *with Adjustable Stroke Especially Suited to the Requirements of..* COX & HAMON

Seven Continental-Falk Geared Powers are used on the properties of Cox and Hamon. They offer the same advantage of adjustable stroke as does the four well hook-up. On this extensive lease, which is more than two miles in length, the pumping requirements vary over a wide range. Here adjustable stroke is not only desirable but essential.

Continental-Falk has maintained its leadership in geared powers by pioneering such desirable features as the adjustable stroke, special oil field tooth form, full automatic lubrication, tell-tale indicator, double Timken bearings, reduced rod line overhang and many refinements of design.



A neat installation adds to pride of ownership.

THE CONTINENTAL SUPPLY COMPANY

DALLAS, TEXAS

Serving the Oil and Gas Industries

I N E N T A L

Illinois, Indiana and Kentucky

By STAFF CORRESPONDENT

2 Devonian Lime Wells Flow 9,325 bbl.; Wabash Gaining

CENTRALIA, Ill., Sept. 11.—The richest spot in all the Illinois fields appears to be a very limited area in and near the old Sandoval field, north of Centralia, in Marion County. Two wells completed in the past week in the Devonian lime pay in that pool flowed 9,325 bbl. in 24 hours or an average of 4,663 bbl. per well. There have been no such wells in any other pool in the Illinois basin and as there is no restriction on production of wells in Illinois other than the purchasers' ability to handle the oil, the two Devonian wells helped materially in bringing production of the state up to 320,792 bbl. per day as an average for the last week.

Seventy-three oil wells were completed in the course of the week, with a total initial production of 25,971 bbl. Sixteen dry holes brought the total completions to 89. At the same time 88 new operations were started of which 26 were in Wabash County, which now has over 75 wells drilling or getting ready to start. Thirteen of the new starts were made in Fayette County and 23 in Marion County, the rest were scattered. Among them were 22 wildcats.

Fayette County's completions and initial production record of the week was 14 oil wells, 2,400 bbl.; Marion County, 36 oil wells, 23,086 bbl.; Wabash County, 7 oil wells, 966 bbl.; Wayne, 6 oil wells, 1,560 bbl.; Richland County, 3 oil wells, 1,487 bbl.; Washington County, 3 oil wells, 311 bbl.; Jefferson County, 1 oil well, 140 bbl.; Clay County, 5 oil wells, 1,771 bbl.; Jasper County, 1 10-bbl. well; Crawford County, 1 60-bbl. well. The 16 dry holes were in Marion, Perry, Champaign, Clay, Fayette and McDonough counties, 1 each, Wabash 4, Wayne 4 and Lawrence 2.

Following was the completed work of the week, the initial production representing 24 hours unless otherwise stated:

Dozen Dry Holes

In Wayne County Illinois Mid-Continent Oil Co.'s No. 1 Vaughn heirs, C N½ NE SE Section 2-3s-8e, was dry and abandoned at 3,510 ft. Fredonia lime was topped at 3,449 ft. Pure Oil Co.'s No. 1 Dean, C E½ NE Section 3-1s-8e, dry and abandoned at 3,087 ft. Fredonia lime was topped at 3,087 ft. Stengel's No. 1 Shelton, C N½ NE NE Section 21-2s-9e, dry and abandoned at 3,409 ft. Pure Oil Co.'s No. 1 J. F. Fisher, NE NW NW Section 34-1s-7e, Roseclaire lime at 3,248 ft., dry and abandoned at 3,384 ft.

In Wabash County Phillips Petroleum Co.'s No. 7 Schultz, NE NW SE SW Section 7-3s-13w, Fredonia lime top at 2,810 ft., total depth 3,040 ft., dry and abandoned. Kane and others' No. 1 Partee-Shelbourne, NE cor. NW NE NW Section 6-3s-13w, Cypress sand tops at 2,470 ft. and 2,495 ft., total depth 2,549 ft., dry and abandoned. Continental Oil Co.'s No. 3 Charles Schauf, NW NE SW Section 30-2S-13w, Paint Creek sand at 2,526-30 ft., total depth 2,550 ft., dry and abandoned. Leathers and others' No. 1 Malone, NE NW NW NE Section 21-3n-14w, dry and abandoned at 2,585 ft.

In Perry County Kingwood Oil Co.'s No. 1 Brokeman, SW SE SW Section 17-4s-1w, St. Louis lime topped at 1,654 ft., dry and abandoned at 1,705 ft.

In Marion County Dorsey Hager's No. 1 Bachman, SE SW SE Section 34-4n-2e, Benoist sand at 2,032 ft., total depth 2,075 ft., dry and abandoned.

In Lawrence County, Mark and others' No. 1 White, SW SE SW Section 8-4n-10w of second principal meridian, dry and abandoned at 1,070 ft. Hutchinson's No. 1 Patton, C S½ NW NW Section 34-3n-12w, 40-qt. shot at 1,639-49 ft. had no results and the hole was abandoned as dry at 1,987 ft.

Marion Completions

In the Salem field in Marion County Texas Co.'s No. 1 Richardson-Hawkins, SE cor. NW SW Section 5-1n-2e, had McClosky lime pay at 1,936-56 ft., and flowed 189 bbl. in 24 hours. Texas' No. 21 Hawthorne, SE NW NE Section 8-1n-2e, Benoist sand at 1,808-32 ft., pumped 25 bbl. in 3 hours. Frontier Oil Co.'s No. 3 Frederick heirs, SW cor. NW NW Section 9-1n-2e, shot with 40 qt. at 1,820-40 ft. and acidized Aux Vases at 1,895-99 ft., pumped 185 bbl. in 24 hours.

In the Sandoval field Menhall and others' No. 3 Benoist, SE cor. NE SE NW Section 8-2n-1e, flowed 4,560 bbl. in 24 hours from Devonian lime topped at 2,903 ft., with pay at 2,939-42½ ft., total depth, which had been acidized with 5,000 gal. Max Pray's No. 2 Robinson, SW SE SW Section 4-2n-1e, flowed 4,765 bbl. of oil in 24 hours, with no water showing; Devonian lime was topped at 2,999-3,002 ft., was acidized with 3,000 gal. and the well flowed 180 bbl. per hour with 360 lb. pressure on the tubing and 735 lb. on the casing. Then it made its 24-hour flow.

In the north end of the Salem field Both & Absher's No. 1 Sisson, NW NW NW Section 3-2n-2e, had McClosky pay at 2,141-46 ft., acidized with 1,750 gal., pumped 25 bbl. Texas Co.'s No. 1 Hamlin, NW NW NW Section 4-2n-2e, McClosky lime at 2,132-45 ft., pumped 82 bbl. in 3 hours, rated at 574 bbl. per day. Walker and others' No. 1 Maryin, SE SE SE Section 9-2n-2e, an old well worked over, reperforated at 2,101-08 ft. and acidized with 500 gal., pumped 30 bbl. of oil and 30 bbl. of water in 24 hours. Magnolia Petroleum Co.'s No. 35 W. O. Chitwood, in W½ NE NW SE Section 26-2n-2e, McClosky lime at 2,019 ft., total depth 2,075 ft., pumped 570 bbl. Magnolia's No. 36 Chitwood, SE cor. SW NW SE Section 16-2n-2e, McClosky at 2,010-15 ft., acidized with 3,000 gal., pumped 704 bbl. Texas Co.'s No. 20 E. Jett, SE cor. NE SW SE Section 16-2n-2e, McClosky lime at 2,069-92 ft. and 2,097-98 ft., acidized with 2,000 gal., flowed 21 bbl. in 3 hours, rated at 147 bbl. a day. Shell Oil Co.'s No. 5-B Salem State Bank, SW SW SE Section 20-2n-2e, Aux Vases sand at 1,785 ft., shot with 25 qt. at 1,833-51 ft., total depth 1,870 ft., flowed 600 bbl. Magnolia's No. 60 J. H. Young, SW NW SW Section 21-2n-2e, McClosky at 1,972-2,007 ft. and 2,031-59 ft., acidized with 3,000 gal., pumped 152 bbl. Magnolia's No. 23 W. B. Young, NE cor. NW NW SW Section 21-2n-2e, shot with 120 qt. in Benoist and Aux Vases sands, total depth 1,870 ft., pumped 336 bbl. Magnolia's No. 57 J. H. Young, SE cor. SW SE NW Section 28-2n-2e, Benoist sand top at 1,782 ft., total depth 1,816 ft., pumped 433 bbl. Ohio Oil Co.'s No. 24 C. E. Lloyd, NW NW SE Section 28-2n-2e, Ste. Genevieve lime top at 1,490 ft., pays at 2,035-42 ft. and 2,052-62 ft., acidized with 3,000 gal., pumped 70 bbl. Texas Co.'s No. 18 J. Chapman, McClosky pays at intervals at 1,956-2,069 ft., flowed 33 bbl. in 3 hours, rated at 154 bbl. per day. Magnolia Petroleum Co.'s No. 20 Shanafelt, NW cor. SW SE Section 29-2n-2e, McClosky pays at 1,918-57 ft. and 1,990-95 ft., acidized with 3,000 gal., flowed 726 bbl. Texas Co.'s No. 10 W. Fossieck, S½ NE NE SW Section 29-2n-2e, McClosky pay streaks from 1,935 to 2,048 ft., flowed 60 bbl. in 3 hours, rated at 420 bbl. a day. Texas' No. 11 Fossieck, N½ NE NE SW Section 29-2n-2e, McClosky pay at 1,931-65 ft. and 2,048-55 ft., flowed 113 bbl. in 3 hours, rated at 791 bbl. a day. Texas' No. 11 W. Frederich A, NW NW SW Section 29-2n-2e, Aux Vases sand at 1,812-66 ft., shot with 15 qt. and 55 qt., flowed 116 bbl. in 3 hours, rated at 812 bbl. a day. Texas Co.'s No. 16 McCollom, SW SE SE Section 29-2n-2e, McClosky pays at 1,945-70 ft. and 1,998-2,018 ft., flowed 90 bbl. in 3 hours, rated at 630 bbl. per day.

I. D. Lain's No. 7 Dempsey, SW cor. NE SW Section 31-2n-2e, McClosky pays at 1,992-2,005 ft. and 2,005-11 ft., acidized with 3,000 gal., flowed 480 bbl. Texas Co.'s No. 6 Dunning, NW SE SE Section 30-2n-2e, shot with 90 qt. at 1,762-1,853 ft., flowed 167 bbl. in 3 hours, rated at 1,169 bbl. per day. Texas' No. 6 Maxwell, NW NE NE Section 32-2n-2e, McClosky at 1,915-46 ft. and 1,972-80 ft., flowed 90 bbl. in 3 hours, rated at 630 bbl. a day. Texas' No. 17 A. McCollum, NE NW NE Section 32-2n-2e, McClosky at 1,902-86 ft., at intervals, flowed 96 bbl. in 3 hours, rated at 672 bbl. a day. Texas' No. 13 Easley, McClosky at 2,022-55 ft., flowed 36 bbl. in 3 hours, rated at 252 bbl. per day. Texas' No. 6 Shanafelt, SW SW NW Section 33-2n-2e, McClosky pays at 1,995-2,006 ft., at intervals, flowed 93 bbl. in 3 hours, rated at 651 bbl. a day. Texas No. 7 S. Shereshovech, NW cor. SE SW NW Section 33-2n-2e, McClosky at 2,011-25 ft. and 2,030-40 ft., flowed 64 bbl. in 3 hours, rated at 444 bbl. a day. The Texas Co.'s No. 2 J. Hamlin, NW cor. NE NW NE Section 4-2n-2e, McClosky lime at 2,124-44 ft., pumped 26 bbl. in 3 hours, rated at 182 bbl. per day. Rossi's No. 7 Brooks, SW NE SW Section 29-2n-2e, McClosky lime at 1,924 ft., total depth 2,055 ft., acidized with 5,000 gal., flowed 720 bbl. Texas Co.'s No. 12 Stonecipher, NW SW SE Section 32-2n-2e, Benoist sand at 1,740 ft., flowed 87 bbl. in 3 hours, rated at 609 bbl. per day.

In the Tonti pool, Marion County, Bates, Lichlyter & Harvey's No. 1 Kagey, trustee, NW cor. SE SW SE Section 33-3n-2e, McClosky lime at 2,138-50 ft., acidized with 2,000 gal., pumped 390 bbl. a day. Mrs. King's No. 2 Kagey, trustee, NE cor. SW SW SE Section 33-3n-2e, McClosky lime at 2,132-39 ft., acidized with 2,000 gal., pumped 725 bbl. a day. Booth & Absher's No. 4 McMakin, SW NW SW Section 34-3n-2e, Fredonia top at 2,144 ft., total depth 2,158 ft., pumped 50 bbl. a day, with a trace of water.

Richland County

In Richland County Pure Oil Co.'s No. 2 Storer Consolidated, NW NW SW Section 13-4n-9e, total depth 2,944 ft., acidized and shot, pumped 12 bbl. in 24 hours. Pure's No. 1 Storer-Sayer Consolidated, NW NW NW Section 24-4n-9e, is a 17-bbl. pumper at a total depth of 2,987 ft. Pure's No. 5 Homer Coen, SE SE SE Section 36-5n-9e, 5½-in. casing set at 2,905 ft., total depth 2,930 ft., casing perforated with 96 shots

Illinois Fields

HIGHLIGHTS OF THE WEEK: The Sandoval field's Devonian lime pay may not cover a large area, but it is proving rich in oil. One completion last week started at 4,560 bbl. and another at 4,765 bbl. per day. Wabash led all counties in new operations, with 26 in the past week, and now has over 75 wells drilling or soon to be started. Production took a bound upward having increased 9,353 bbl. per day over the previous week. The Salem field averaged 193,101 bbl. per day.

Average daily production of new pools, 313,092 bbl.; old pools, 7,700 bbl.; total, 320,792 bbl.

Oil wells completed, 73; total operations, including locations, rigs and wells drilling, 468.

at 2,830-40 ft., flowed 1,458 bbl. in 24 hours, pinched in, and produced 3,500,000 cu. ft. of gas.

In Wabash County W. S. Tatum and others' No. 1 Williams, SW cor. SE NE NE Section 17-3s-13w, Cypress sand at 2,397-2,414 ft., flowed 900 bbl. in 8 hours. Funston & Co.'s No. 1 Hoffman, SE SW SW Section 29-2s-13w, Cypress sand at 2,479-93 ft., shot with 10 qt., pumped off in 6 hours after producing 25 bbl. of oil.

In Washington County Magnolia Petroleum Co.'s No. 1 Barevewski, SW SE NE Section 15-3s-3w, shot with 15 qt. in Benoist sand at 1,261-71 ft., pumped 80 bbl. Shell Oil Co.'s No. 4 Kozusjek, NE SW NW Section 23-3s-3w, shot with 21 qt. at 1,286-94 ft., pumped 177 bbl. Shell Oil Co.'s No. 5 Kozusjek, pay at 1,255-89 ft., shot with 21 qt., pumped 54 bbl.

In Wayne County Witcher Development Co.'s No. 1 Farmer, SW cor. NE SE Section 3-1n-8e, pay at 3,087-94 ft., pumped 22 bbl. of oil and 53 bbl. of water. D. Davis' No. 1 A. Carlson B, Fredonia lime top at 2,233 ft., pays at 2,234-38 ft. and 3,244-48 ft., flowed 242 bbl. in 9 hours. C. Robinson and others No. 5-A Hornick & Murphy, NE NE SE Section 34-2s-8e, McClosky lime at 3,405-17 ft., flowed 386 bbl. in 24 hours. Illinois-Mid-Continent Oil Co.'s No. 1 Puckett, SW SE NW Section 35-2s-8e, Paint Creek sand at 3,127 ft., pay at 3,371-82 ft., flowed 300 bbl. C. Robinson and others' No. 2 Hornick & Murphy, NE NW SW Section 35-2s-8e, Paint Creek sand at 3,192 ft., pay at 3,381-92 ft., flowed 500 bbl. Riley & Lacey's No. 1 Dawley, SW SW NE Section 31-3s-8e, Aux Vases sand at 3,204-30 ft., flowed 110 bbl.

In Jefferson County, Carter Oil Co.'s No. 1 Copple, SW NE SW Section 4-1s-2e, Bethel sand shot with 10 qt. at 1,946-48 ft., pumped 140 bbl. in 1 day.

In Champaign County Sadorus Oil Co.'s No. 1 Nogle, SE SE SE Section 31-18n-8e, dry and abandoned at 1,120 ft. Glen Dean sand topped at 1,050 ft.

In Clay County Wiser Oil Co.'s No. 6 Daly, C SE NW Section 6-2n-8e, pay at 3,050-56 ft., flowed 486 bbl. per day. Pure Oil Co.'s No. 10 Sol Smith B, C W½ NW SE Section 7-2n-8e, total depth 3,125 ft., treated with 5,000 gal. of acid, flowed 472 bbl. Pure's No. 9 Sol Smith B, C W½ SW NE Section 7-2n-8e, total depth 3,128 ft., acidized with 5,000 gal., flowed 436 bbl. Pure's No. 1 Verda Gill, total depth 3,080 ft., pumped 54 bbl. per day. Chicago Syndicate's No. 1 Stacer, C N½ NE NW Section 14-3n-7e, dry and abandoned at 3,062 ft. Pure's No. 4 Stanford, C E½ SW SW Section 32-3n-8e, total depth 3,140 ft., acidized with 5,000 gal., flowed 323 bbl.

In Crawford County Downey and others' No. 1 Cochran, SE SE NW Section 12-5n-12w, total depth 962 ft., shot with 30 qt., pumped 60 bbl.

Fayette County

In Fayette County Ohio Oil Co.'s No. 1 Schworm, NE NE NE Section 36-6n-2e, total depth 1,613 ft., shot with 7 qts, pumped 96 bbl. Carter Oil Co.'s No. 5 M. McClain, total depth 1,584 ft., shot with 40 qt. and 20 qt., swabbed 340 bbl. and 75,000 cu. ft. of gas. Carter's No. 8 Goodson, total depth 1,589 ft., shot twice with 20 qt., swabbed 196 bbl. and 15,000 cu. ft. of gas. Carter's No. 3 Welker, C E½ SE SE Section 7-7n-3e, shot with 10 qt. at 1,568-71 ft., and with 10 qt. at 1,555-59 ft., swabbed 312 bbl. and 15,000 cu. ft. of gas. Carter's No. 5 Leona Williams, NE NE SW Section 7-7n-3e, total depth 1,588 ft., shot with 20 qt. and 40 qt., swabbed 244 bbl. and 10,000 cu. ft. of gas. Carter's No. 4 W. Hawkins, NW SE SW Section 17-7n-3e, total depth 1,576 ft., shot with 40 qt. and 10 qt., swabbed 188 bbl. and 10,000 cu. ft. of gas. W. B. Johnson's No. 3 Logue, SE SW SW Section 18-7n-3e, Cypress sand at 1,527-48 ft., shot with 20 qt., pumped 125 bbl. Robert E. Markham's No. 2 Rhodes, SW cor. NW SW SW Section 18-7n-3e, total depth 1,552 ft., shot with 20 qt. in Cypress sand at 1,539-52 ft., pumped 95 bbl. Carter Oil Co.'s No. 3 C. Owens, NE NE NW Section 20-7n-3e, dry and abandoned at 1,551 ft. Carter's No. 1 Ruth Musser, SE SW SW Section 2-8n-3e, shot with 20 qt. at 1,580-87 ft., swabbed 136 bbl. Carter Oil Co.'s No. 7 Wright, SW NW NE Section 21-8n-3e, total depth 1,616 ft., plugged back to 1,579 ft., shot with 40 qt. and 10 qt., swabbed 138 bbl. of oil and 75,000 cu. ft. of gas. Carter's No. 8 Wright, NW SW NE Section 21-8n-3e, shot with 40 qt. at 1,514-27 ft., swabbed 56 bbl. of oil and 75,000 cu. ft. of gas. Carter's No. 4 Lewis, NW SW NE Section 27-8n-3e, total depth 1,599 ft., shot with 20 qt. and 10 qt., swabbed 44 bbl. of oil and 50,000 cu. ft. of gas. Carter's No. 2 Mamie Tucker, SE SW NE Section 28-8n-3e, shot with 60 ft. at 1,521-40 ft., Paint Creek sand, flowed 402 bbl. of oil and 100,000 cu. ft. of gas. Jarvis Brothers' No. 9 Sinclair, C N½ NW NE Section 29-8n-3e, deepened from 1,398 ft. to 1,412 ft., and shot with 25 qt., pumped 30 bbl.

In Jasper County Siberling and others No. 1 Freeland, C E½ SW NW Section 15-8n-14w, shot with 30 qt. at 681-94 ft., pumping 10 bbl. per day.

In McClean County Oil Well Drilling Corp.'s No. 1 Daubman, SW NE NE Section 33-22n-2e, abandoned at 50 ft.

In McDonough County McAllister Oil Co.'s No. 1 Ira Lyon, SE cor. NW Section 19-4n-4w of fourth principal meridian, abandoned at 335 ft.

In Edwards County Kingwood Oil Co.'s No. 1 Johnson, SE SE NE Section 18-3s-11e, flowed 415 bbl. in 17 hours through tubing, and was shut in. Kingwood's No. 1 Steele, NE NE SE Section 18-3s-11e, St. Louis lime top at 3,175 ft., set 5½-in. casing at 3,184 ft., total depth 3,196 ft. McClosky lime at 3,157-63 ft. was saturated, but not tested. R. E. Johnson's No. 1 Smith, NE cor. SE SW Section 18-3s-14w, moving in rotary. Kingwood Oil Co.'s No. 1 Helm, NE NE NW Section 18-3s-14w, had Ste. Genevieve lime top at 3,074 ft., pay at 3,131-38 ft., total depth 3,226 ft., set 5½-in. casing at 3,184 ft. and waiting for cement to set. Magnolia Petroleum Co.'s No. 1 Ethridge, SW cor. NW SW Section 18-3s-14w, set 5½-in. casing at 3,110 ft., drilling plug.

In Edwards County, Longhorn Oil Co.'s No. 1 Mary Kraft, SW NW SW Section 31-2s-14w, McClosky lime at 3,120 ft., total depth 3,175 ft., set 5½-in. casing on bottom. McFadden's No. 1 Bump, NE SE SW Section 34-2s-14w, Cypress sand at 2,625-42 ft., set 7-in. casing at 2,627 ft., swabbing through tubing.

In Jefferson County Yingling & Hayes' No. 1 Woods, C NW NE Section 21-2s-4e, rig up. Magnolia Petroleum Co.'s No. 1 Gray, NW SE NE Section 22-3s-2e, drilling.

In Lawrence County Johnson's No. 1 Downey, C E½ SE NW Section 22-3n-11w, Ste. Genevieve lime top at 1,733 ft., shut down for orders at 3,507 ft.

In Madison County Erie Drilling Co.'s No. 1 Kaseberg, SW SE SE Section 2-3n-9w, shut down at 1,420 ft. F. Cary's No. 1 J. Hassell, SE SE SW Section 11-3n-9w, shut down at 240 ft.

In Clay County J. W. Leonard and others No. 1 Raley, C W½ NW SE Section 13-3n-7e, drilling at 2,750 ft.

In Marion County Dunbar & Wingate's No. 1 France, NE NW SW Section 1-4n-4e, drilling at 720 ft.

In Fayette County Turner's No. 1 Hoagland, NW NW SW Section 14-9n-4e, drilling in sand at 1,160 ft.

In Clark County Spencer's No. 1 Montgomery, SW SE SW Section 5-9n-14w, rigging machine. D. R. Gooch and others' No. 1 Davis, SE SE SE Section 17-9n-13w, drilling at 271 ft. Trenton Rock Oil Co.'s No. 1 Black, C SE NW Section 14-11n-14w, drilling at 650 ft. W. R. Miller's No. 1 Booth, SE NE NW Section 17-11n-14w, drilling at 1,800 ft. Patiman Production Co.'s No. 1 Ingersoll, NW SW SE Section 29-11n-14w, total depth 1,117 ft., plugged back to 1,058 ft., shot with 80 qt., cleaning out.

In Wayne County A. J. Albright's No. 1 Collins, NW NW SE Section 24-1s-9e, cored at 2,219-26 ft., no oil showing, drilling at 2,491 ft.

New Wildcat Operations

In Shelby County Fletcher, Troop & Crisler's No. 1 Hulick-Willard, NW NE SE Section 9-10n-4e, was drilling at 1,990 ft., with no showing of oil or gas. Paint Creek sand was topped at 1,810 ft.

In Montgomery County Boren & Burroughs' No. 1 T. N. Jett, near C NW NE NW Section 30-8n-3w, was drilling at 600 ft.

In Clay County Robey Drilling Co. has rig up for No. 1 DeHart, C W½ NE SE Section 9-3n-7e.

In Effingham County Continental Oil Co. and Kingwood Oil Co. were moving in material for No. 1 Niemers, NE SE NE Section 17-7n-7e.

In Jefferson County Shell Oil Co.'s No. 1 Ragan, SW SW SE Section 25-2s-1e, moving in rotary tools. Wiser Oil Co.'s No. 1 Severs, SW SW NW Section 19-2s-1e, rigging up rotary.

In St. Clair County Milburne & Tanner will deepen No. 1 Werner, SW cor. SE NE Section 29-2s-7w, now shut down at 1,460 ft.

In White County Kingwood Oil Co.'s No. 1 Fearn, SW NE NW Section 19-3s-11e, location. C. A. Evarts' No. 1 J. W. Brown, C NE SW Section 35-4s-9e, location.

In Richland County Pure Oil Co.'s No. 1 Lillie Coen, C E½ SE NE Section 2-4n-9e, set 8⅝-in. casing at 326 ft., and drilling at 1,022 ft. Pure Oil Co.'s No. 1 Cora Clark, SW SW SW Section 31-5n-10e, location.

In Wabash County, Delta Drilling Co.'s No. 1 G. W Rose, NW NW SE Section 15-2s-13w, cellar and pits dug.

In Marion County, Funkhouser & Borah's No. 1 Mason, NW SW NW Section 20-3n-1e, rig up. Ned Easley's No. 1 Humes, NW NE NE Section 13-3n-2e, rig up. Frederick McCoy's No. 1 McFadden, SW cor. SE NW NE Section 9-2n-2e, drilling at 1,000 ft.

In Gallatin County Buford and others' No. 1 Egyptian Tie & Lumber Co., SW NE NW Section 22-8s-10e, drilling at 1,790 ft.

In Washington County Kingwood Oil Co.'s No. 1 Brink, SE SE SE Section 15-1s-1w, location.

Among the Active Wildcats

In Jefferson County Alma Oil Co.'s No. 1 Consolidated Coal Co., SE SE NW Section 23-4s-2e, topped Fredonia lime at 2,790 ft. and was drilling at 2,907 ft.

In White County Lackey & Wilson's No. 1 Rawlins, NW NW SE Section 6-4s-8e, drilling at 850 ft. T. E. Morrow's No. 2 Cynthia Cox, NE NW NE Section 6-4s-8e, drilling at 2,945 ft. J. W. Carter and others' No. 1 Johnson, NE SW NE Section 12-4s-10e, drilling at 2,535 ft. McIntyre & Johnson's No. 1 Hon, NE NW SE Section 9-4s-14w, total depth 3,003½ ft., plugged back to 2,710 ft. and set 5½-in. casing at 2,705 ft., will rig up standard tools. Chisom's No. 1 Boultingham, CWL SW SW Section 10-4s-14w, Benoist sand at 2,753-69 ft., total depth, set 4½-in. casing at 2,740 ft., drilling plug. Sun Oil Co.'s No. 1 Garner, SW SE SW Section 1-5s-10e, pumped 27 bbl. in 24 hours and was being cleaned out for a test. Penn Illinois Oil Co.'s No. 1 Pyle, SE ES NE Section 12-6s-8e, drilling at 2,980 ft. Roseclaire lime was topped at 2,971 ft.

(Continued on Page 95)

INDIANA

EVANSVILLE, Ind., Sept. 11.—Eight oil wells were completed in the Indiana fields in the past week, together with one gas well and four dry holes. Three new wells in Gibson County with combined 629-bbl. initial production, and three in Posey County, with 699-bbl. production; one 125-bbl. well in Vigo County and a 12-bbl. well in Jay County comprised the productive new wells. The gas well was finished in Decatur County. The dry holes were reported from Gibson, Sullivan, Knox and Daviess counties.

Gibson County

In Gibson County Continental Oil Co.'s No. 2 Bozeman, NE NE NW Section 24-3s-14w, was completed. It flowed 104 bbl. of oil in 3 hours through 2-in. tubing from pay at 2,487-2,500 ft., the total depth. J. L. Taylor and others' No. 1 Epperson, NE SE NE Section 9-4s-11w, was abandoned as dry at 3,540 ft. Cypress sand was topped at 2,107 ft. and Ste. Genevieve lime-

(Continued on Page 108)

WESTERN KENTUCKY

OWENSBORO, Ky., Sept. 11.—Four oil wells and six dry holes were recorded in the western Kentucky fields in the past week. Eight new operations were started. Following are the week's results:

In Breckinridge County, Glen Dean district: D. C. Colbeck's No. 5 Joe Moorman, dry hole, total depth 542 ft.

Butler County, Huntsville district: J. C. Miller, trustee's, No. 1 Cook, 10-bbl. well in Jones sand, total depth 400 ft.

Daviess County, Utica district: Farmer and Chenault's No. 1 J. E. Brown, drilled deeper from 1,384 ft. through the Barlow sand, total depth 1,418 ft.; estimated good for 50 bbl. J. C. Ellis' No. 2 Ellis, spudding in. No. 3, moving in material. Master Oil Co.'s No. 1 Roy Hansford, swabbed 40 bbl. in 3 hours after the shot, a combination of Barlow and Bethel sand production, total depth 1,455 ft. Baldwin Oil Co.'s No. 3 Dr. A. A. Westerfield, east tract, moving in; No. 4, a location. Maceo district: Mecca Oil Co.'s No. 1 Tilden Ellis, dry hole through McClosky lime, total depth 1,401 ft. Shorts district: Finwill Drilling Co.'s No. 2 J. H. Sloane, dry hole, total depth 1,350 ft.

Hancock County, Lewisport district: Lion Oil Refining Co.'s No. 1 O. E. Gabbert, dry hole, total depth 1,246 ft.

Henderson County, Euterpe district: S. C. Yingling and others' No. 4 Silas Nunn heirs, dry hole through McClosky lime, total depth 2,335 ft.

Livingston County, 3½ miles north of Smithland: Stewart and others' No. 1 Larue, spudding in.

(Continued on Page 78)

North Louisiana, Arkansas

By GEORGE WEBER

First Mississippi Oil Well Flows 93 bbl. in 12 Hours

SHREVEPORT, La., Sept. 11.—Completion of a good oil producer, Mississippi's first, highlighted the developments of the week in this district. In Yazoo County, about 36 miles northeast of Vicksburg, the Union Producing Co. brought in No. 1 G. C. Woodruff for an initial gage of 93 bbl. in 12 hours through a ¼-in. choke.

The second discovery of last week, a new Smackover lime pool in Columbia County, Arkansas, had no new development to date. The well, Atlantic Refining Co.'s No. 1 Pine Woods Lumber Co., opened a pool in the vicinity of the town of Experiment.

Production by Pools

Estimated daily gross production of all companies for week ending September 9 follows:

NORTH LOUISIANA

	Barrels
Bellevue	470
Caddo light	4,315
Caddo heavy	2,560
Converse	550
Cotton Valley light	*10,915
Cross Lake	4,230
De Soto and Red River	1,150
Elm Grove	280
Haynesville	2,775
Holly	90
Homer	2,750
Lisbon	3,100
Pleasant Hill	85
Rodessa	20,965
Sarepta-Cartervile	†270
Sligo	1,265
Sugar Creek	365
Urania	2,590
Zwolle	2,720
Total	61,445

SOUTH ARKANSAS

Atlanta	360
Buckner	2,380
Champagnolle	1,525
El Dorado	1,650
Experiment	‡235
Lewisville	705
Lisbon	235
Magnolia	11,900
Miller County	235
Nevada	575
Rodessa	2,830
Schuler	9,670
Smackover	1,905
Smackover heavy	14,590
Stephens	515
Troy	1,210
Urbana	1,020
Village	980
Total	52,520

Texas side of Rodessa field, 19,365 bbl.
*4,945 bbl. is distillate. †55 bbl. is distillate. ‡One well. Atlantic Refining Co.'s No. 1 Pine Woods, Section 16-18s-22w, completed Aug. 28, 1939, flowing 22 bbl. 43.5-gravity oil per hour.

Magnolia Operations

The Magnolia field of Columbia County, Arkansas, the leading activity center at present, gained six wells during the week. A seventh is nearing completion and is expected to further extend production to the west. The edge well, G. H. Vaughn's No. 1-B Jones, has 7-in. casing set at 7,575 ft. The test topped the main oolitic porosity in the Reynolds lime at 7,500 ft., or —7,247 ft. subsea, which will give it about 75 ft. of oil saturation according to the established water level in the formation. Completion is expected early in the coming week.

Showings of oil persist in Lion Oil Refining Co.'s No. 1 Annie, SE SE Section 29-15-17, a Ouachita County wildcat, 4 miles west of Smackover production at Louann, and located in the old abandoned McDonald pool. The Smackover lime was topped at 5,641 ft. and operators cored a section of hard, dense lime at 5,641-54 ft. The section, on a 15-minute drill-stem test, using ⅝-in. chokes top and bottom, showed a recovery of 200 ft. of drilling fluid, and a very slight show of oil and gas. Another core of tight, dense lime was taken at 5,654-66 ft. and a second drill-stem test at that level showed 35 ft. of drilling mud with a slight show of oil in 13 minutes, with no pressure. Operators have set 7-in. casing at 5,640 ft., with total depth at 5,666 ft.

Lion's other semiwildcat completion, No. 1 Hill, in Section 6-18-13, near the Urbana pool of Union County, is a gasser, making 4,300,000 cu. ft. daily through a ¾-in. choke, with shut-in pressure of 1,100 lb. Perforations were made in the 5-in. casing at 2,674-77 ft. Total depth is 4,601 ft.

North Louisiana Tests

Longwood Oil & Gas Co.'s No. 1 Belden & Baughn, a wildcat mystery well in Section 28-20-12, Bossier Parish, about 13 miles northeast of Shreveport, in the Benton area, is reported dry and is expected to be abandoned. Salt water was tested in the Nacatoch sand at 1,215-25 ft.

In the same parish, Union Producing Co. is testing No. 1 Lincoln Land Co., a mile-west outpost to the Lake Bisteneau gas condensate field. Pettit lime below the 5-in. casing at 5,225 ft. showed nothing after it had been acidized with 1,000 gal. and the well was reacidized with 5,000 gal. and a further test will be made where a show of gas was detected while drilling the formation. Another outpost in the sector, Hunt

(Continued on Page 96)

2 Offsets to Yazoo's New Well

YAZOO CITY, Miss., Sept. 11.—Additional development at Tinsley, southwest of this city, where Union Producing Co. on September 5 completed Mississippi's first commercial oil well, is due to get under way this week with locations already made for two more tests. In the meantime, the discovery well, No. 1 Woodruff, has continued on production with operators making production tests on various sized chokes to determine the well's potentialities and most efficient rate of flow.

On a late 12-hour gage through a 9/64-in. choke, the well flowed 68 bbl. of pipe-line oil with 415 lb. pressure on the casing and 385 lb. on the tubing. On a prior test, through a ¼-in. choke, it made 93 bbl. in 12 hours with 300 lb. pressure on tubing and 240 lb. on casing. The well has shown a tendency to build up pressure.

So far no plans have been announced for an outlet for the oil which has been run to fuel and other available tanks on the lease. These, for the present, are adequate to care for the production while operators watch the outcome of the production tests. With the well only 3 miles from the navigable Yazoo River, it is anticipated an outlet can be provided quickly if needed.

Locations announced to date include one for Union Producing Co.'s No. 1 Jenny Stevens, C NW NW

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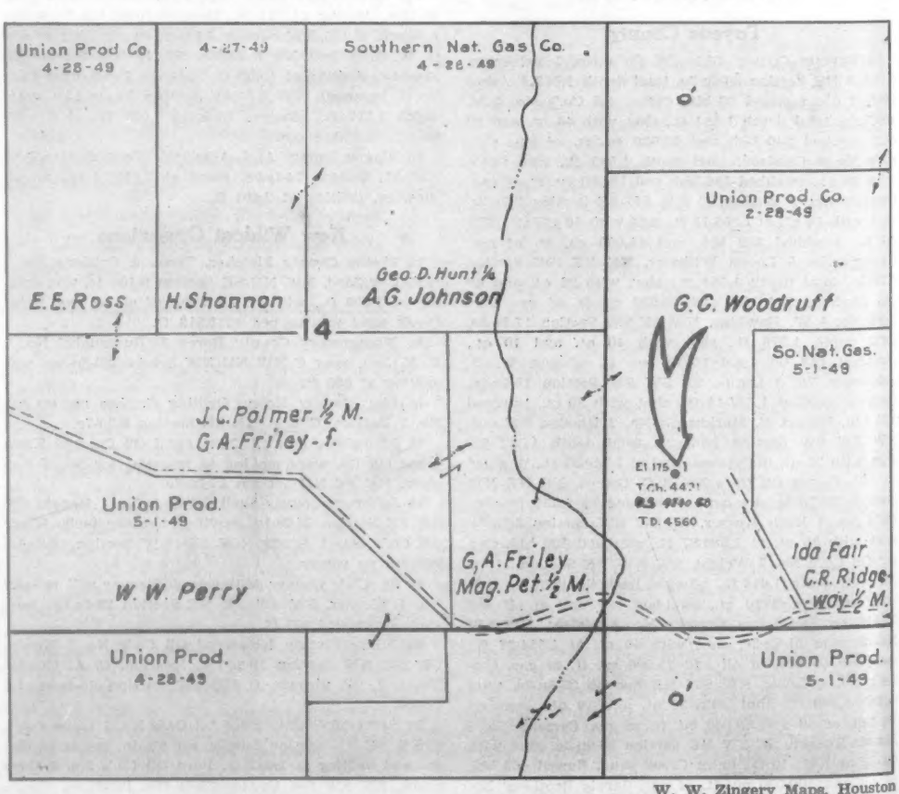

W. W. Zingery Maps, Houston

Union Producing Co.'s discovery well, Tinsley area, southwest of Yazoo City, Miss., and new locations announced

Kansas Developments

By
DAL DALRYMPLE

Extend Three Fields; Shutts and Bemis Districts Linked

Although several wildcat failures were completed in Kansas the past week, exploration was not without pleasing results as several extensions to productive areas were recorded. Completions in all flush and wildcat areas during the first full week following lifting of the shutdown totaled 29, an increase from eight in the preceding week. The new completions included 17 oil wells, 3 gas wells and 9 dry holes.

A productive spot was uncovered in southeastern Barton County at C. E. Ash, J. H. Hershey and Crown Petroleum Corp.'s No. 1 Schartz, SE SE NW Section 12-20-12w, 1½ miles south of the town of Ellinwood. It is ¾ mile west of the West Ellinwood pool and may be an extension of that area. Oil rose 1,800 ft. in the hole in 5 hours after plug was drilled in Arbuckle lime to 3,363 ft., total depth. It had not been tested. Location is on a Shell Oil Co. farmout. Offset locations are owned by Stanolind, Sinclair Prairie and Gulf companies.

The rich Bemis field in Ellis County apparently has been linked with the Shutts pool at Lario Oil & Gas Co. and others' No. 1 Bemis, CSL NW NE Section 33-11-17w. It is ⅝ mile south of the Bemis field and an equal distance northeast of the Shutts area. It found Arbuckle lime at 3,472½ ft., drilled into the formation 1 ft. and recovered saturation in drill cuttings. Operators were expected to run casing for a production test. Location is on a Margay Oil Co. farmout. West and northwest offset locations are owned by York State Oil Co.

A northwestward extension of the Prusa pool, Barton County, was reported at Solar Oil Co.'s No. 1 Schartz, SE SE NE Section 18-16-11w. It found Arbuckle lime at 8,323-26 ft., and recovered a 2-ft. core with saturation. Seven-inch casing was set and standard tools were being rigged up. Location is ⅝ mile northwest of basal-sand production at Prusa and is about 1 mile from Lansing-lime production in the West Prusa pool. Offsets are owned by Shell and Sinclair Prairie companies.

The Bornholdt pool in southwestern McPherson County was extended ¾ mile eastward at Henry Bennett and others' No. 1 Peterson, CSL NW NW Section 32-20-5w. It topped chat at 3,350 ft., was bottomed at 3,367 ft., and completed temporarily for 30 bbl. of oil daily, pending retest.

New Operations

New tests included the following: W. R. Yeager's No. 1 Krier, SW SW NE Section 18-16-11w, Barton County, cellar; Barbara Oil & Gas Co.'s No. 2-B Thompson, C NE Section 16-33-13w, Barber County, pits; Saco Oil Co.'s No. 1 Cabeen, NE SE SW Section 9-27-6, and Sinclair Prairie Oil Co.'s No. 9 Millheisler, NE NE SW Section 4-26-5, locations in Butler County; Adair & Morton's No. 8 Brandt, SE cor. Section 15-28-7, Butler County, drilling below 500 ft.

Trees Oil Co.'s No. 2 Pierson, NE cor. Section 19-30-4, and W. M. McKnab's No. 2 Hittle, SE NW NE Section 21-31-4, Cowley County, locations; Mid-Continent Petroleum Corp.'s No. 1 Dougherty, SW SE NW Section 33-17-10w, Ellsworth County, drilling below 2,350 ft.; Shell Oil Co.'s No. 24 Rumsey, NW NE NE Section 23-11-17w, Ellis County, rigging up rotary; Phillips Petroleum Co.'s No. 3 Hendricks, C S½ NE NE Section 13-11-18w, Ellis County, drilling below 1,100 ft.; Continental Oil Co.'s No. 3 Buehler, CSL SE NE Section 33-17-8w, spudded.

Continental Oil Co. and others' No. 4-A Pickerill, SE SE NE Section 24-18-8w, and Darby Petroleum Corp.'s No. 2-A Oden, CWL NW NE NE Section 6-21-7w, Rice County, locations; Sinclair Prairie Oil Co.'s No. 7 Rogg, NW NW SE Section 29-14-13w, Russell County, location; Shell Oil Co.'s No. 7 Dumler, NW SE SW Section 36-15-14w, Russell County, drilling below 680 ft.; Western Kansas Oil & Refining Co.'s No. 1 Kliewer, SW SW NE Section 25-18-1w, McPherson County, moving in material; Skelly Oil Co.'s No. 1-A Steffen, C NE Section 31-27-10w, Kingman County, location.

Estimated Daily Production

Estimated daily production for Kansas for the week ending September 9.

	Barrels
Oxford City	500
Burrton	5,500
Ritz-Canton	2,750
Graber	1,800
Hollow-Nikkel	1,300
Lerado	400
Voshell	950
Wellington	1,100
Ellsworth County:	
Lorraine	900
Other pools	810
Rice-Barton counties:	
Bloomer	1,350
Chase	2,600
Geneseo	2,000
Raymond	375
Silica	6,000
South Silica	1,400
Keesling	500
Wherry	1,750
Miscellaneous Rice	2,050
Miscellaneous Barton	3,480
Russell County	15,000
Sedgwick County	1,975
Ellis County:	
Bemis	4,100
Miscellaneous	2,010
Kingman County	100
Stafford County	650
Greenwood County	4,800
El Dorado-Towanda	4,100
Other fields	22,900
Total Kansas	93,150

Wildcat Operations

Failure dogged the activity of wildcat operators in Kansas the past week, all wildcat completions being dry.

Cities Service Oil Co.'s No. 1 Robert, C SE Section 31-21-15w, wildcat in Pawnee County, found Arbuckle lime at 3,924 ft., water intruded and it was abandoned at 3,945 ft.

Atlantic Refining Co.'s No. 1 Harter, C E½ NE SW Section 9-21-13w, Stafford County wildcat, had Arbuckle lime at 3,759 ft. and was dry and abandoned at 3,795 ft.

Western Kansas Oil & Refining Co.'s attempt to find oil at No. 1 Gregory, SE SE NW Section 2-34-6, Cowley County wildcat, failed and it was abandoned at 3,113 ft., with a hole full of water. Mississippi lime was topped at 3,095 ft.

Adair & Morton gave up the effort to make a producer of No. 1 Jones, C W½ NW NW Section 29-28-7, Butler County wildcat, when the hole filled with water at 3,230 ft., total depth. Arbuckle lime was topped at 3,220 ft.

In Ellis County Helmerich & Payne's No. 1 Simpson, NE NE SE Section 3-11-17w, topped Arbuckle lime at 3,510 ft. and was dry and abandoned at 3,530 ft.

Bradley Oil Co. and associates failed to find anything showing at No. 1 Dolecheck, C SE NW Section 26-16-12, Barton County wildcat, and abandoned it at 3,426 ft., total depth.

New wildcat operations included A. A. Hinze and others' No. 1 Hester, NW SW NE Section 1-22-12, Greenwood County, a machine; C. L. Carlock's No. 1 Huyer, C SE NW Section 6-21-1w, McPherson County, rigging rotary, and Saco Oil Co.'s No. 1 Habiger, SE SE SW Section 12-18-10w, Rice County, location.

Russell County

W. I. Southern, Inc.'s No. 2-C Sellens heirs, C W½ E½ SE Section 29-15-13w, Trapp field, Russell County, drilled Arbuckle lime at 3,333-36 ft., total depth, pumped 256 bbl. of oil in 8 hours and made potential of 769 bbl.

Haynes & Anschutz's No. 1 Landon, SW NE SE Section 11-15-14w, had Arbuckle lime at 3,345-49 ft., total depth, it was acidized and pumped 856 bbl. of oil in 8 hours, making potential of 2,568 bbl.

Sinclair Prairie Oil Co.'s No. 6 Rogg, C N½ SE SE Section 29-14-13w, Hall pool, topped Lansing lime at 2,869 ft., was bottomed at 3,148 ft., and was estimated good for 5 bbl. of oil daily, but was temporarily abandoned.

Ellis County

Cities Service Oil Co.'s No. 12 Rumsey, NE NE SE Section 23-11-17w, Bemis field, Ellis County, was completed for maximum potential of 2,500 bbl. of oil in Arbuckle lime at 3,454-58 ft., total depth.

In the South Burnett area, Darby Petroleum Co. completed its No. 3-A Hadley, C S½ SW SE Section 12-11-18w, in Arbuckle lime at 3,325-31 ft., total depth. It was given maximum potential rating of 2,500 bbl. of oil.

Phillips Petroleum Co.'s No. 2 Peavey, C N½ SW SE Section 13-11-18w, Peavey pool, had Arbuckle lime at 3,412-18 ft., total depth, and made maximum potential of 2,500 bbl. of oil daily.

J. J. Hall's No. 5-B Oswald, SW SW SE Section 11-12-16w, Blue Hill area, had Lansing lime at 3,102-06 ft., total depth 3,110 ft., was acidized and pumped 582 bbl. of oil in 8 hours, making potential of 1,748 bbl. daily.

Rice County

Herndon Drilling Co. completed No. 1 Gray, SW SW NE Section 30-18-7w, Geneseo pool, Rice County, for potential of 1,214 bbl. of oil daily after it had been acidized and pumped 405 bbl. in 8 hours. Production was from Arbuckle lime at 3,194-3,207 ft., total depth.

Same company's No. 2 McGlinn, C W½ NW SW Section 4-20-9w, Midway pool, found Arbuckle lime at 3,253-59 ft., total depth, pumped 82 bbl. of oil in 8 hours and made potential of 246 bbl. daily.

Barton County

Stanolind Oil & Gas Co. completed a sizable producer in the Barton County sector of the Silica field at No. 20 Panning, SW SW NW Section 11-20-11w. It drilled Arbuckle lime at 3,272-77 ft., total depth, and swabbed 45 bbl. of oil in 2 hours. After acidizing, it made depthograph potential of 2,500 bbl. daily.

Derby Oil Co. and others' No. 2 State, NE NW NE Section 15-20-11w, Ellinwood area, had Arbuckle lime at 3,283-90 ft., total depth, oil rose 3,000 ft. in the hole in 3 hours and it was completed for maximum potential of 2,500 bbl. of oil daily.

Cowley County

Two large producers were added in the Hittle pool, Cowley County.

Cities Service Oil Co.'s No. 2 Hittle, SE NE NW Section 21-31-4, topped Arbuckle lime at 3,367 ft., was bottomed in lime at 3,379 ft., flowed 85 bbl. of oil an hour and made flowing potential of 2,500 bbl. of oil daily.

Hartman & Blair's No. 12 Waite, NE SE NW Section 21-31-4, was completed for maximum potential of 2,500 bbl. of oil daily, flowing from Arbuckle lime drilled at 3,351-61 ft., total depth.

McPherson County

Bennett & Grossman's No. 2 Suffield, NE NE SE Section 25-19-2w, Ritz-Canton field, pumped 81 bbl. of oil in 8 hours and was completed for daily potential of 245 bbl. It had Lansing lime at 2,290 ft., Mis-

sissippi lime 2,914 ft., total depth 2,987 ft., and plugged back to 2,970 ft.

Sunray Oil Co. and others' No. 1 Johnson, C W½ W½ NE Section 31-20-5w, Bornholdt area, McPherson County, found Mississippi lime at 3,310-30 ft., total depth 3,359 ft., pumped 134 bbl. of oil in 8 hours and made potential of 403 bbl. daily.

Stafford County

E. H Moore, Inc.'s No. 3 Stewart, C S½ NE SW Section 12-24-11w, Zenith field, Stafford County, penetrated Misener sand from 3,730 ft. to 3,745 ft., total depth. It flowed 32 bbl. of oil the first hour and was estimated good for 275 bbl. of oil daily, completed.

Butler-Greenwood Counties

Cromwell & Lewis' No. 1 Stern, NW cor. Section 27-27-6, Stern pool, Butler County, topped Arbuckle lime at 3,115 ft., had a hole full of water and was abandoned at 3,130 ft., total depth.

Barbara Oil Co.'s No. 26 Schnieder, NE SW SW Section 10-23-13, Virgil area, Greenwood County, found Bartlesville sand at 1,611-30 ft., total depth 1,636 ft., and pumped 10 bbl. of oil in 24 hours, completed.

Johnson County

OK Supply Co.'s No. 2-C Knabe, NW SE NE Section 15-14-22, Gardner pool, Johnson County, had Bartlesville sand at 834-841 ft., total 850 ft., and was estimated good for 10 bbl. of oil daily.

Same company's No. 1 Moore, SE SW SW Section 11-14-22, topped Bartlesville sand at 885 ft. and was dry and abandoned at 903 ft.

Gas Well Completions

Barbara Oil Co.'s No. 3-B Root, SE SW NE Section 15-33-13w, Medicine Lodge field, Barber County, had Mississippi lime at 4,549-79 ft., total depth 4,900 ft., plugged back to 4,600 ft., was shot and produced 25,000,000 cu. ft. of gas.

Skelly Oil Co. and others' No. 1 Fitzsimmons, C N½ S½ SW Section 35-27-11w, Cairo area, Pratt County, had Viola lime at 4,128-43 ft., total depth, was acidized and produced 28,672,242 cu. ft. of gas daily.

Colorado Gas Utilities' No. 1 McClure, C NW Section 34-31-38w, Hugoton field, Stevens County, had pay at 2,447-2,525 ft., total depth, and was estimated good for 22,750,000 cu. ft. of gas daily.

Forest City Basin Activity

ST. JOSEPH, Mo., Sept. 11.—Completion of several failures in the Forest City basin has not retarded new developments, and now Iowa and Nebraska are beginning to share in the drilling activity which heretofore has largely been confined to the Missouri and Kansas sectors of the basin.

One test is being drilled in Iowa and work is expected to start soon at another wildcat in that area. Oscar Gruber was reported drilling at 1,050 ft. and was preparing to set 6-in. pipe in his No. 1 fee, C SW SE Section 8-67n-40w, southeast of Sidney, Fremont County, Iowa. F. E. Hunt and others of Des Moines were reported moving in tools for a wildcat at No. 1 McConnell, C SE SE Section 11-78-30w, on the Redfield anticline in Guthrie County, west of Des Moines. R. C. Jones, of Tulsa, the contractor, was moving in machine and preparing to spud. It is to be drilled to 2,000 ft. Location is on a large block.

Work was underway at Pawnee Royalty Co.'s No. 1 Boice, C NE NE Section 18-1n-16e, southwest of Falls City, Richardson County, Nebraska. Contract depth is 3,500 ft. In the Kansas sector of the basin work was started at C. L. Sheedy and others' No. 1 O'Neil, SE SW NW Section 34-8-19, Jefferson County.

A hitherto unreported test in Platte County, Mo., gave promise of opening a gas field. It was Missouri Valley Gas & Oil Co.'s No. 1 Breen, SW NE Section 7-51-33w. Sans publicity, it was started recently by Davis Brothers Drilling Co., of Independence, Mo., and drilled to 600 ft., where a heavy flow of gas caused the well to clean itself. It then was shut down while operators completed block and checked titles. Six and one-fourth inch casing is being set, preparatory to drilling ahead to Bartlesville sand expected around 950 ft. Gas production previously has been found in the general area at around 600 ft.

Pableo Development Co.'s No. 1 Morrow, Section 35-52n-32w, Clay County, was reported dry and abandoned at 500 ft.

Eastern Drilling Co. also was reported to have abandoned its No. 1 Williams, NW NW NE Section 18-53-32w, Clay County, at 1,906 ft.

Loomis and others' No. 1 Henlein, CN½ NE SW Section 31-55-24w, in Carroll County, had gas pay at 247-55 ft., total depth, and was completed there. Output was not gaged, but it was said to be producing sufficient gas for domestic use.

Morrow & Rodgers Properties Co., of Pittsburgh, Pa., had spudded at No. 1 Cooley, SE SE NW Section 36-64-17w, Adair County. Eastern Drilling Co. has the contract.

Mayson Oil Co. was drilling below 1,165 ft. at its No. 1 McGonigle, CNL SE NW Section 20-63-13w, near Kirksville, Adair County. It had an oil showing at 1,156-66 ft.

McGinnis, Elwell and others' No. 1 Maple, NE SW SE Section 3-62-26w (also reported in Section 7-63-27w), Harrison County, had a showing of oil at 390 ft. and operators were drilling ahead at 940 ft. in Mississippi lime, with a hole full of water that was slightly salty. After straight-reaming the hole, 12½-in. casing was set at 524 ft.

L. E. Mummert and others' No. 1 Ricker, Section 25-54-20w, Charlton County, was a location. Buttram Petroleum Co., of Oklahoma City, after having drilled one dry hole in Charlton County, was expected to start another test soon.

A showing of oil in Arbuckle lime was reported at C. E. Dittman and others' No. 1 Houston, NW SW SE Section 26-65-19w, Putnam County. It was bottomed at 1,779 ft., and operators planned to dry-hole and acidize.

Western Kentucky

(Continued from Page 73)

McLean County, South Livermore district: W. E. Hupp and others' No. 1 Huckelberry (Livermore Timber Co.—Mineral), 35-bbl. well in McClosky lime, total depth 1,674½ ft.

Ohio County, Whitesville district: Coffee & Vickers' No. 1 F. and J. Foor, drilling at 100 ft. Oklahoma district: O. D. Vickers and others' No. 4 T. Greer, rigging up. Deanfield district: Nix and Swartzberg's No. 1 E. D. Hanna, location. Sunnydale district: J. W. Ray's No. 1 George Russell, dry hole, total depth 110 ft.

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Texas and Louisiana Gulf

By NEIL WILLIAMS

Open Pools in Louisiana and Texas Side of Coastal Area

HOUSTON, Tex., Sept. 11.—The discovery of three fields, and extensions and new sand discoveries, marked an interesting week of developments in the Gulf Coast district the past week. In coastal Louisiana the La Fourche Crossing prospect in La Fourche Parish was being added to the productive list, while in St. Martin Parish the Henderson salt dome received its first commercial production. Along the Texas coast the Hilje prospect, Wharton County, was opened for further development by the completion of a small producer, and an important extension was indicated on the south flank of the Thompson field in Fort Bend County.

Mikton Oil Co.'s No. 2 Martinez, on the La Fourche Crossing prospect, La Fourche Parish, was in the final stages of completion, as tubing was being run after 35 bbl. of 39-gravity oil was recovered on a 42-minute drill-stem test through perforated casing at 10,128-31 ft. The test was made through ¼-in. choke on top and bottom of the testing tool. Working pressure was built up to 1,775 lb. Bottom-hole pressure at the end of the test was 4,600 lb. The last two joints of the drill stem were full of sand and water with a slight brackish taste. The well was drilled to a total depth of 10,515 ft., and the present test was made after a previous one at 10,126-34 ft. showed oil and salt water. The wildcat is in Section 132-15s-7e, midway between the Chacahoula and Raceland fields. The structure was found by reflection seismograph.

Texas Co.'s No. 12 St. Martin Land Co., on the south flank of the Henderson salt dome, opened the first production on the structure when the well was completed through perforated casing at 8,570-90 ft. for an initial production of 302 bbl. of 37.3-gravity oil per day, flowing through a 12/64-in. choke under a working pressure of 1,225 lb. The structure was found in 1934 by reflection seismograph shooting, and salt was first encountered in the company's No. 9 St. Martin Land Co., which topped the formation at 8,848 ft. The company has drilled several wells on the flank of the structure and all tests logged favorable showings.

Golden Meadows Extended

The Golden Meadows field, La Fourche Parish, was extended approximately 2,000 ft. by the discovery of a new sand in Texas Co.'s No. 2 La Terre, Section 6-20s-22e. The well was drilled to a total depth of 10,089 ft., and was completed through perforated casing at 10,620-40 ft., for an initial production of 355 bbl. daily flowing through a 7/32-in. choke. This is the first 10,000-ft. production developed in the field and the completion opened Golden Meadows' seventh producing horizon. Three additional oil wells were added, and production tests were under way on several others. Texas Co.'s No. 1 Falgout Holding Co. and No. 1 E. L. Deramee were completed in the 7,900-ft. pay for good producers, while Martex Petroleum Corp.'s No. 2 Falgout Holding Co. was finaled in sand at 8,152-60 ft. for an initial production of 172 bbl. daily, flowing through a 10/64-in. choke. Other wells in the process of completion included: F. W. Bennett's No. 1 Justillien Orgeron, bottomed at 5,675 ft., with 7-in. casing cemented at 5,560 ft.; M. H. Marr and R. A. Bristol's No. 1 Church Property, which topped sand, showing oil, at 2,648 ft., and is testing at a total depth of 2,666 ft.; St. Mary Oil Co.'s No. 1 Unit No. 7, total depth 5,500 ft., with 5½-in. casing cemented at 2,828 ft., ad Terouche Oil Co.'s No. 1 Cheramre, bottomed at 5,501 ft. with 7-in. casing cemented on bottom.

The North Tepetate field, Acadia Parish, was extended approximately 1,500 ft. to the east with the completion of Atlantic Refining Co.'s No. 5 Klumpp. The casing was perforated at 9,040-46 ft., and the well flowed 16 bbl. of distillate in 12 hours through a ¼-in. choke.

In Plaquemines Parish Humble Oil & Refining Co. added another deep producer to the Potash dome with the completion of No. 39 Orleans Levee Board. The hole is bottomed at 8,103 ft., and the well was completed at 7,890-7,905 ft., flowing 202 bbl. daily through a $\frac{7}{16}$-in. choke.

In Orleans Parish, W. T. Burton continues to test No. 1 L. & N. R. R., Section 18-11s-15e. Perforations made in the casing have been acidized at 10,116-24 ft., and the hole is being swabbed at a plugged-back depth of 10,150 ft.

The University field, East Baton Rouge Parish, continues to be extended as four oil wells were added, and production tests were being made on three other wells. Locations made in the field the past week include: W. V. Bowles' No. 2 Richard Community, Section 45; William Helis' No. 2-B and 8-A Duplantier; J. Edward Jones' No. 1 Nichols Community, in Section 45, and T. G. Markley and others' Nos. 4 and 5 Knox-Amis-Farnbacher.

Locations for two Wilcox (Tertiary) tests were made in Vernon and Avoyelles parishes. In Vernon Parish, Pan American Production Co. staked location for No. 1 Anders Post Lumber Co., 466 ft. S and W of NE cor. NW¼ Section 27-2n-11w, while in Avoyelles Parish Carter & Rubsamen have rigged up No. 1 I. E. Boyette, in Section 28-3n-5e.

Texas Coast

On the Texas coast, Texas Co.'s No. 1 Gerd Peters, located on the Hilje prospect, Wharton County, has been completed for an initial production of 24 bbl. of 25-gravity oil daily flowing through a ⅛-in. choke under a tubing pressure of 1,400 lb. and casing pressure 1,675 lb. Production is from the Frio sand, through perforated casing at 5,220-30 ft. The well is in Section 101, E.T.R.R. Survey, about 2½ miles east of the Louise field, and southwest of the town of El Campo.

On the south flank of the Thompson field, Fort Bend County, John H. Blaffer's No. 1 J. H. P. Davis, approximately 2,500 ft. south of production in the Robert Peebles Survey, cored sand and shale showing oil at 5,350-5,400 ft., total depth, and 5½-in. casing was cemented at 5,350 ft. The well topped the Marginulina at 5,090 ft., and the hole is thought to be bottomed in the Frio sand. While the sand section corresponds with the 5,200-5,300-ft. sand in the field proper, there is much speculation as to whether the well will prove an extension to the field or open a separate area, due to faulted condition.

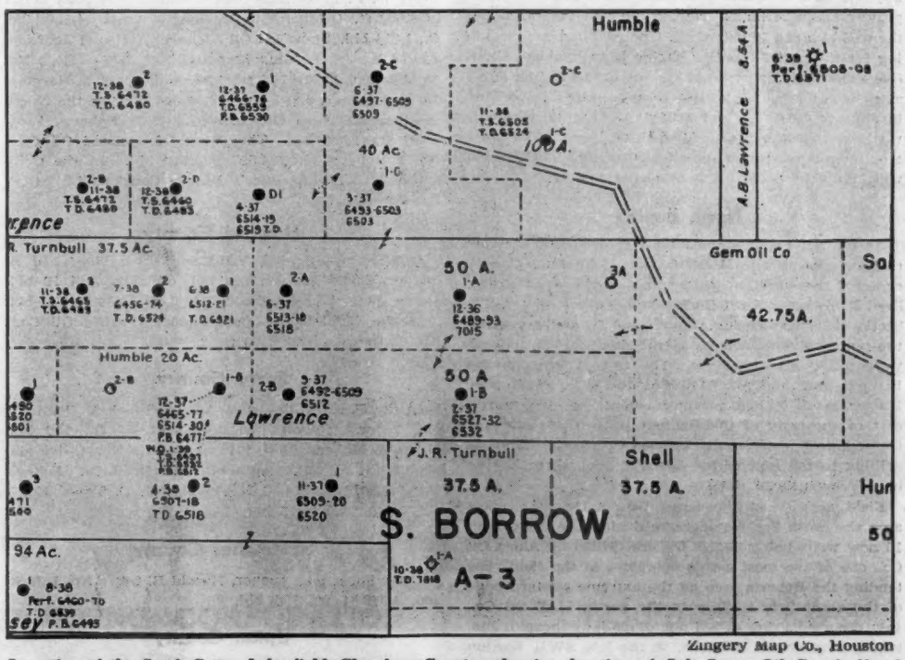
In the same county, and about 2½ miles west of Rosenberg, Cockburn Oil Co.'s No. 1 Marion Dziersanowski is beig watched with much interest as slight showings of oil and gas were reported logged in thin sand streaks between 5,900 and 6,000 ft. The well topped the Warren at 5,901 ft. and is reported to be checking slightly higher than other wells drilled in the area.

In the east extension area of the Turtle Bay field, Chambers County, Stanolind Oil & Gas Co.'s No. 1 Wilcox, flowed 119 bbl. in 24 hours through a ⅛-in. choke from perforated casing at 6,550-53 ft. The well is the second producer to be completed in the area and is a north offset to the company's No. 1 Tassie Lotz.

On the southeast flank of the Esperson dome, Liberty County, General Crude Oil Co.'s No. 4-B Esperson was completed after an initial production of 347 bbl. daily, flowing through a ¼-in. choke under a tubing pressure of 1,575 lb. and shut-in casing pressure of 1,800 lb. The hole is bottomed at 7,619 ft. and the well was completed through perforated casing at 7,200-62 ft.

In the same county and in the Martha field Stanolind Oil & Gas Co.'s No. 1 Seaberg, south offset to the

(Continued on Page 90)



Zingery Map Co., Houston

A portion of the South Cotton Lake field, Chambers County, showing location of Salt Dome Oil Corp.'s No. 1 Williams, completed recently to mark up an important extension to the field

West, Central and Panhandle Texas

By
D. H. STORMONT

1,000 bbl. in 10 Hours From Pecos New Ordovician Well

MIDLAND, Tex., Sept. 11.—A flow of 100 bbl. of oil per hour for 10 hours from Magnolia Petroleum Co.'s No. 1 Masterson, offset to the deep Ellenburger of lower Ordovician discovery in the shallow Masterson pool of northern Pecos County, featured the week's development in the West Texas district. Decided upturn in field work marked the activity in the northern basin area including the Wasson-Denver-Bennett field and the Slaughter pool.

The large flow made by Magnolia's No. 1 Masterson encourages the possibilities of another Ordovician oil pool for West Texas, the only two such pools being Big Lake in Reagan County and Sand Hills in Crane County. Proving itself a much better well than the discovery, which was completed for 184 bbl. of oil daily, the Magnolia well is correlated 42 ft. lower structurally than the pool opener. Given one 500-gal. acid treatment, the flow was after the well had been allowed to clean itself making some 70 bbl. of fluid hourly. The Ellenburger was topped at 4,596 ft. and cored from 4,599 ft. to 4,611 ft. Nine feet of dolomite was recovered showing porosity, fractures and oil stains. Operator drilled on to 4,614 ft. and cemented 7-in. casing at 4,597 ft. The well is a south offset to the Anderson-Prichard Oil Corp. and Monte Warner's No. 1 Masterson, discovery well located in Section 104, Block 10, H.&G.N. Survey.

Favorable showings of free oil in a wildcat in Reeves County centered considerable attention as the week closed. The well, Forest Development Corp.'s No. 1 I. E. Scott, Section 286, Block 13, H.&G.N. Survey, 11 miles east of Balmorhea, was last reported drilling in the Delaware sand at 4,963 ft. and showing an increasing amount of gas and free oil. Several sections of slight saturation have been found since standard tools were installed for drilling below the 5-⅛-in. casing seat at 4,832 ft.

In Schleicher County final Railroad Commission gage has been reported for the county's second oil-pool opener. Harold B. Opp and associates' No. 1 J. T. Jackson, located in Section 41, Block L.L., T.C. Survey, 2½ miles northwest of Eldorado, gaged 105 bbl. of 34-gravity oil in 24 hours. During the following 18 hours the well pumped 76 bbl. of oil. The well had been standing for the past 2 months, having been swabbed about five times daily and recovering only 15 to 17 bbl. of oil at each swabbing. It drilled into saturated Cisco lime in June at 4,049 ft., and drilled to 4,081 ft. where it was given 5,000 gal. of acid in three stages. The operator intends to start a second well on the block which will be northwest of his pool opener.

North Basin

An outpost 1½ miles northeast of production on the eastern edge of the Bennett pool of Yoakum County centered the attention in that area as the week closed. Fred M. Allison's No. 1 Bush estate, SW cor. N½ SW¼ Section 629, was coring below 5,300 ft. and expecting the pay at about 5,375 ft. Slight shows of oil and gas were found at 5,296-99 ft. The test is between the Bennett pool and Shell Oil Co., Inc.'s No. 1 Waples-Platter, small outpost producer about 2½ miles northeast of the body of the Bennett pool. Completion of the test as a producer is expected to greatly stimulate drilling to the east of the Bennett pool, there having been very little to date.

Field activity in the large Wasson-Denver-Bennett area showed a decided increase during the week with 15 new wells being gaged, 6 were drilled by Aloco Oil Co., one of the most active operators in the field. Extending the Roberts area on the extreme western edge of the great field slightly to the north, Shell Oil Co., Inc., reported a flow of 234 bbl. of oil daily through 2-in. tubing at its No. 1 Johnson, in the N½ SW¼ Section 772. Total depth is 5,235 ft. and the test was acidized in two treatments of 1,500 gal. and 3,500 gal.

A fishing job delayed completion attempts at Stanolind Oil & Gas Co.'s No. 1 J. B. Rayner, Cedar Lake pool opener in Gaines County. Fishing for a lost swab was the latest report from the well, the swab having been lost while attempting to ascertain the effectiveness of a water shut-off in plugging back to 4,770 ft. The well had been plugged back to 4,783 ft. from 4,830 ft., total depth. At 4,783 ft. it tested 242½ bbl. of oil and 8 bbl. of water in 24½ hours and tested 95 bbl. of oil and 11 bbl. of salt water on air lift during the following 11 hours.

Extreme western edge test for the Slaughter pool of Hockley County has been staked by Western States Gasoline Corp. as its No. 1 Mallett, 440 ft. out of the southeast corner of Labor 10, League 51, Scurry C.S.L. Survey. It is a north offset to the Texas Co.'s No. 1-C Mallett, wildcat producer 5 miles west of the Slaughter pool's discovery well. The Texas Co.'s No. 1-C Mallett was completed for 552 bbls. of oil daily to push the western borders of the pool within 2½ miles of the Cochran County line and within 5 miles of the Duggan pool of Cochran County.

WEST TEXAS FIELD COMPLETIONS

(24-hour gages)

Crane County

In the McElroy pool Gulf Oil Corp.'s No. 199 McElroy, 2,716-2,915 ft., 661 bbl. Humble Oil & Refining Co.'s No. 26 Ricker, 2,104-28 ft., 155 bbl.

Crockett County

In the Crockett pool Gilcrease Oil Co.'s No. 1-13 University, 1,356-1,444 ft., 108 bbl., old well drilled deeper. Gilcrease Oil Co.'s No. 10-13 University, 1,325-1,440 ft., 93 bbl.

Ector County

In the Foster pool Arrow Drilling Co.'s No. 15 H. C. Foster, 4,190-4,300 ft., 1,369 bbl. Barnsdall's No. 1 Mae Witcher, 3,970-4,160 ft., 1,347 bbl. J. D. Bodkins' No. 1 H. F. Foster, dry and abandoned at total depth of 4,600 ft. Octogan Oil Co.'s No. 3 Woods, 4,150-4,385 ft., 1,314 bbl. Stanolind Oil & Gas Co.'s No. 11 Johnson, 4,115-4,210 ft., 69 bbl. Stanolind Oil & Gas Co.'s No. 19 Witcher, 3,975-4,175 ft., 1,964 bbl. York & Harper's No. 5-D Foster, 4,165-4,324 ft., 1,564 bbl. In the North Cowden pool Aloco Oil Co.'s No. 2 O. B. Roberts, 4,145-4,300 ft., 1,039 bbl. Tide Water Associated Oil Co.'s No. 2 Roberts, 4,285-4,525 ft., 713 bbl. In the Goldsmith pool Phillips-Pure's No. 65 Cowden, 4,043-4,149 ft., 228 bbl.

Howard County

In the Snyder pool, F.H.E. Oil Co.'s No. 1 D. H. Snyder, 2,665-2,855 ft., 164 bbl. oil daily and 10 bbl. water. R. J. Wallace's No. 5 Bell, 2,486-2,850 ft., 221 bbl.

In the Chalk-Settles pool Sinclair Prairie Oil Co.'s No. 62 Dodge, 2,633-2,790 ft., 274 bbl.

Pecos County

In the Pecos Valley pool Adams, Black & Bennett's No. 1 Iowa Royalty Trust, 1,540-1,605 ft., 150 bbl. Myers & McLean's No. 1 Iowa Royalty Trust, dry and abandoned at total depth of 1,482 ft. J. N. Hickey's No. 1 Mathis, 2,214-90 ft., 10 bbl. J. C. Trees' No. 1 fee, 2,240-2,359 ft., 5 bbl.

Schleicher County

A wildcat pool opener, Harold B. Opp's No. 1 Jackson, 4,049-81 ft., 105 bbl.

Upton County

In the McCamey pool Continental Oil Co.'s No. 5 Burleson, 2,107-90 ft., 37 bbl., old well drilled deeper Robbins-Rankin-Burleson's No. 3 Cordova-Union, 2,181-2,246 ft., 110 bbl. Texas Pacific Coal & Oil Co.'s No. 38-A Lane, 2,028-40 ft., 361 bbl.

Scurry County

In the Sharon pool, Coffield & Guthrie's No. 3 First National Bank-Snyder, 2,210-2,450 ft., 149 bbl.

Ward County

In the Sealy pool Magnolia Petroleum Co.'s No. 17-46 Sealy, 2,760-2,804 ft., 141 bbl. Ward-Pecos Petroleum Co.'s No. 2 Texas Cotton Industries, 1,833-81 ft., 210 bbl.

Winkler County

In the Keystone pool W. K. Royalty Co.'s No. 11-B Walton, 2,895-3,062 ft., 1,912 bbl.

Yoakum County

In the Wasson-Denver-Bennett pool Aloco Oil Co.'s No. 2 Futch, 4,890-5,230 ft., 436 bbl. Aloco Oil Co.'s No. 4 Johnson, 4,840-5,244 ft., 287 bbl. Aloco Oil Co.'s No. 2 Randall, 4,840-5,200 ft., 886 bbl. Aloco Oil Co.'s No. 1-C Willard, 4,880-5,200 ft., 916 bbl. Aloco Oil Co.'s No. 5 Wooten, 4,934-5,135 ft., 834 bbl. Aloco Oil Co.'s No. 6 Wooten, 4,933-5,135 ft., 1,121 bbl. Basin States Oil Co.'s No. 3 Hague, 4,952-5,195 ft., 875 bbl. Humble Oil & Refining Co.'s No. 15 Wooten, 4,890-5,110 ft., 944 bbl. J. E. Mabee's No. 8 Willard, 4,980-5,220 ft., 2,542 bbl. J. W. Murchinson's No. 4-A Elliott, 4,984-5,090 ft., 936 bbl. J. W. Murchinson's No. 9-B Elliott, 4,990-5,090 ft., 907 bbl. Osage Drilling Co.'s No. 2 Lynn, 5,050-5,200 ft., 671 bbl. Shell Oil Co., Inc.'s No. 5-A Baumgart, 4,900-5,166 ft., 1,154 bbl. Shell Oil Co.'s No. 9-C Baumgart, 4,840-5,169 ft., 1,087 bbl. Tide Water Associated Oil Co.'s No. 3-B Kendricks, 4,930-5,140 ft., 1,199 bbl.

PANHANDLE COMPLETIONS

(24-hour gages)

Carson County

Northern Oil Co.'s No. 7 E. Cooper, 3,126-73 ft., 436 bbl.

Gray County

Cities Service Oil Co.'s No. 19 I. B. Hughey B, 3,146-3,218 ft., 252 bbl. Cities Service Oil Co.'s No. 2 Wall B, 3,265-75 ft., 87 bbl. Shell Oil Co., Inc.'s No. 11 Haggard, 3,230-3,302 ft., 381 bbl. Stanolind Oil & Gas Co.'s No. 11 W. G. Kunzer, 3,254-3,314 ft., 314 bbl.

Hutchinson County

Phillips Petroleum Co.'s No. 44 Cockrell ranch, 2,982-3,045 ft., 265 bbl. Stanolind Oil & Gas Co.'s No. 14 W. B. Haile B, 3,018-79 ft., 250 bbl. Stanolind Oil & Gas Co.'s No. 12 Moore, 3,000-3,128 ft., 364 bbl. Stanolind Oil & Gas Co.'s No. 21 E. E. Watkins A, 2,900-73 ft., 330 bbl.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Sept. 11.—Staking of a new Palo Pinto lime wildcat test in southeastern Jones County, together with slight extensions in the Griffin pool, Jones County, and the Ivy pool in Shackelford County and the discovery of a new oil pool in Young County, led the activity in West Central Texas the past week.

Just west of the shallow Sandy Ridge pool in southeastern Jones County, Tom B. Owens and W. F. Snebold, both of Fort Worth, have staked location for No. 1 Jeffreys, NE¼ Section 7, Block 15, T.&P. Survey. Production will be sought from the prolific Palo Pinto lime and it is contracted to 5,000 ft. Location is a mile northwest of a 4,007-ft. wildcat drilled by the same oper-

(Continued on Page 98)

All ELECTRICALLY LOGGED BY SCHLUMBERGER

The deepest well ever drilled (KCL A-2, Total Depth, 15,004 feet; Producing Depth, 13,175 feet), and the deepest producing well (Buckley Bourg No. 1, Total Depth, 13,409 feet; Producing Depth, 13,266 feet), are both producing from sands located by . . . .

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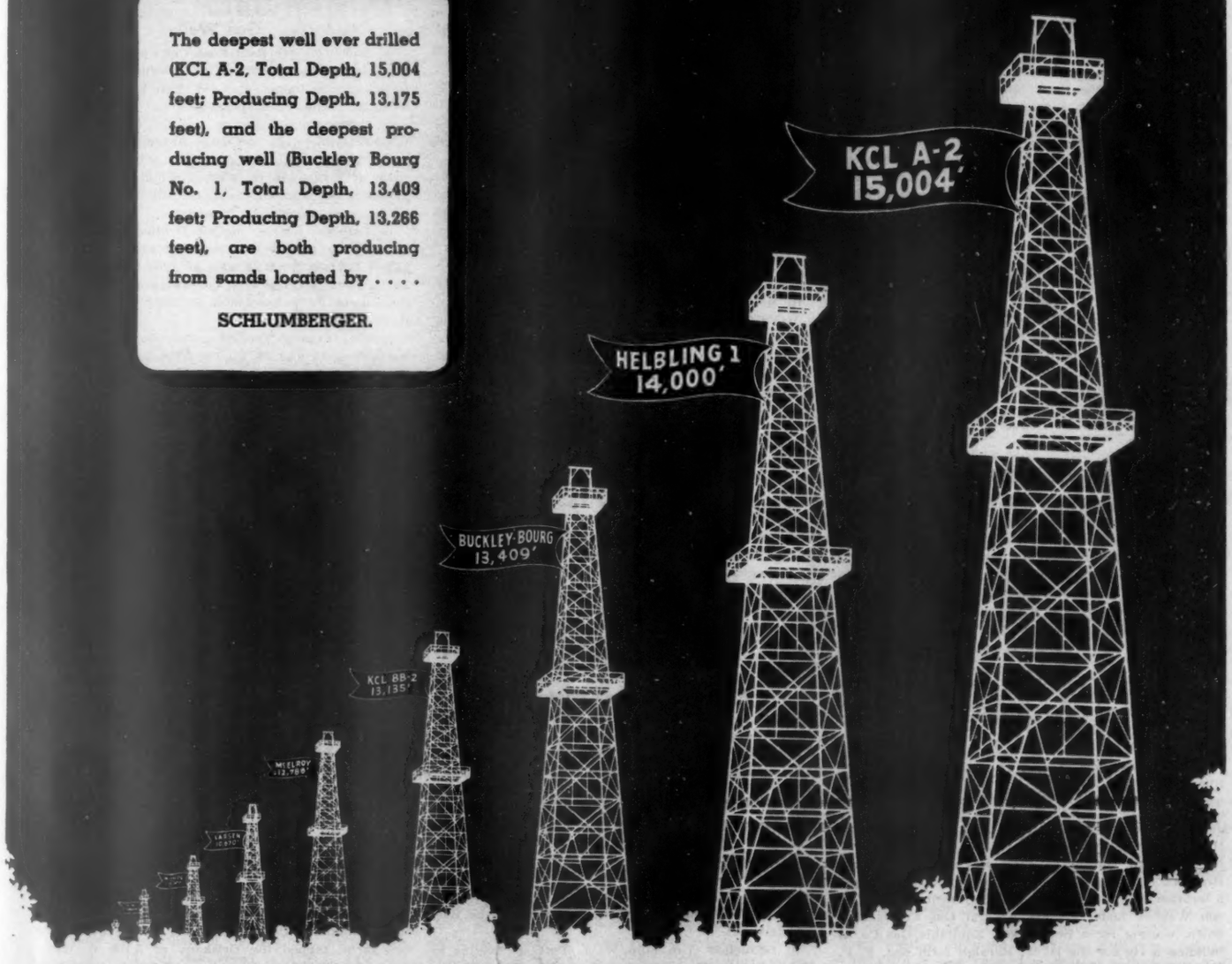


SCHLUMBERGER WELL SURVEYING CORPORATION ★ HOUSTON, TEXAS

Eastern Field Report

By STAFF CORRESPONDENT

13,000,000-cu. ft. Gas Well in Armstrong County, Penn.

PITTSBURGH, Pa., Sept. 9.—In Armstrong County, Pennsylvania, Peoples Natural Gas Co. topped Onondaga lime at 6,534 ft. in its well on the Lowry Martin farm, and cemented casing at 6,576 ft. This well is on the Greendale anticline, and on the Rural Valley Quadrangle, is located .95 mile west of Long. 79° 20′ and 2 miles south of Lat. 40° 55′. The sand should be reached within the week.

In Cowanshannock Township, Armstrong County, Peoples Natural Gas Co. completed a large gas well on the Jacob Harkleroad farm in Bradford sand at a depth of 3,591 ft. The first gas pay was at 3,566 ft., and successively 3,572 ft. and 3,577 ft., and the production gaged almost 13,000,000 cu. ft. a day.

SOUTHEAST OHIO

In Athens County, Southeast Ohio, G. & K. Oil & Gas Co. completed No. 3 Willis Vandyke, 4 miles north of Stewart, in Section 30, Rome Township, in first Cow Run sand at 322 ft. It produced 25 bbl. the first day after the shot and is rated as a 15-bbl. pumper.

In Guernsey County, H. A. and R. M. Burns completed a test on the Muskingum Water Shed Consolidated, in Section 14, Richland Township, in Germantown sand at 434 ft. It is now pumping 6 bbl. a day. In Section 14, same township, these operators completed a 3-bbl. well on the O. K. Rich farm in the same formation at 432 ft.

In Knox County, Section 7, Butler Township, Ohio Fuel Gas Co. drilled a test through the Clinton sand to 2,962 ft. and it was dry.

In Medina County, N. Y. Oil Co. drilled Nos. 29 and 30 on the Thomas Brown, Jr., farm, in Section 16, Chatham Township, in Berea grit and both, while showing oil, will be used as input wells for water flooding.

In Monroe County, H. B. Walker & Co. completed a gas well on the Albert Moore farm in Section 27, Sunnybrook Township, in Keener sand at 1,650 ft., and it gages 2,000,000 cu. ft. per day. In Section 32, Franklin Township, Briggs Oil & Gas Co. completed a 1-bbl. well on the John Hogue farm in the Cow Run sand at 830 ft.

SOUTHWEST PENNSYLVANIA

In Allegheny County, Pennsylvania, Charles B. Wachter completed No. 2 Mrs. Emma Skees, in Sewickley Heights Township, in the Hundred Foot sand at 1,700 ft. and it is good for 2 bbl. a day.

In Shaler Township, Allegheny County, Price Brothers completed a gas well on the J. L. Kirk farm in the Thirty Foot sand. It gaged 100,000 cu. ft. a day. Here, J. S. Wally completed the test on the Brown farm in Salt sand at 1,378 ft., and it has a volume of 200,000 cu. ft. of gas a day.

In West Deer Township, Allegheny County, Heck and Larkin are drilling at 1,425 ft. on the Steve Donaldson farm. Walter and others have started drilling on the John Flick farm.

Armstrong County

In Cowanshannock Township, Armstrong County, J. C. Sefton and others completed a gas well on the John Sowers farm at 3,648 ft. It produced 52,000 cu. ft. the first day. Apollo Gas Co. is cementing at 3,391 ft. on the Edgar Harkleroad farm and should reach the Bradford sand pay this week. The company has made a location on the Hulda M. Bleakney farm. On the Jacob Wagner farm, Peoples Natural Gas Co. is shut down, waiting for a line socket. Equitable Gas Co. is building a rig for the D. W. Raraigh farm test. F. F. Watson and others are building a rig to deepen No. 1 Mrs. Joe Boyer.

In Boggs Township, John Wray and others are spudding on the William Mateer farm. In Manor Township, Wray and others are testing the gas in No. 1 Dora E. Myers, at 2,702 ft. It gaged 500,000 cu. ft. per day and decreased to 150,000 cu. ft. per day. It may be deepened.

In Gilpin Township, Pleasant Valley Gas Co. was drilling at 2,350 ft. on the J. J. Klingensmith farm. In Plum Creek Township, William McCollins was building rig on the Add Reefer farm. In Kiskiminitas Township, Apollo Gas Co. is grading a location on the J. P. Wilson heirs farm.

Clarion-Indiana

In Limestome Township, Clarion County, Kimmel Gas Co. is drilling in the Thirty Foot sand at 1,690 ft., with 80,000 cu. ft. of gas showing. Squirrel Hill Gas Co. is down 750 ft. in No. 2 N. A. Sloan.

In Piney Township M. T. Rhea Gas & Oil Co. is drilling at 560 ft. in No. 5 J. M. McKee. In Porter Township Owens Illinois Glass Co. is drilling at 2,210 ft. in the John Shanafelter test. In Elk Township the Dempseytown Gas Co. is still fishing at 5,742 ft. in the George Wilson test.

In Indiana County T. W. Phillips Gas & Oil Co. drilled the test on the Kent Coal Mining Co. land in Young Township, to 3,462 ft. and it was dry. In Center Township this company is drilling at 3,248 ft. on the R. & P. Coal Co. land.

In White Township, Indiana County, this company is drilling at 2,000 ft. on the Indian Real Estate & Trust Co. lease, and at 998 ft. in the Joseph Mark test. In West Mahoning Township, R. C. Galbreath & Co. is down 300 ft. in the Thomas Steffey test.

Fayette-Greene

In Menallen Township, Fayette County, Nollem Oil & Gas Co. is drilling at 1,196 ft. on the Combs farm, with casing set in the Injun sand at 1,182½ ft. Here, J. H. Carnell is rigging up on the Mike Uhrin farm.

In Nicholson Township, Fayette County, Duquesne Gas Co. started drilling on the Andrew DeMaske farm. In Menallen Township Wahler Powers Oil & Gas Co. is down 900 ft. in the S. H. Powers test.

In Greene County O. I. Dille and others drilled a dry hole on the John Barclay farm in Monongahela Township, to 3,090 ft.

In Center Township, Greene County, Morgan Henderson, agent, is drilling at 1,987 ft. in No. 4 J. L. Metz. In Greene Township Brummage and others are drilling at 1,100 ft. in the H. Durr test. Fred Garrison is drilling at 430 ft. on the Henderson Coal Co. land.

In Richhill Township A. L. Phillips and others had reached 2,300 ft. on the E. Sheppard farm. Equitable Gas Co. is deepening No. 1 Eli Orndoff in Center Township, at 2,340 ft. In Perry Township Northeastern Oil & Gas Co. is down 2,995 ft., deepening No. 3 Fetty.

Washington County

In South Franklin Township, Washington County, Union Gasoline & Oil Co. deepened No. 4 S. Watters through the Fifth sand to 2,789 ft. and it is good for 2 bbl. a day, and is drilling at 100 ft. in No. 822 C. T. Conn. In Morris Township this company is drilling at 2,811 ft. in No. 819, J. R. Andrew land, with the Fifty Foot sand topped at 2,690 ft., and 27,000 cu. ft. of gas at 2,780 ft. This company has started drilling No. 821, on this farm.

In Amwell Township Shivers and others will drill on the T. J. Horn farm. In South Franklin Township Foley and Williams are drilling at 530 ft. in the Weiler Iams test.

In Bethlehem Township W. L. Potts is drilling at 525 ft. in the Hen Kinnemond test. In West Bethlehem Township Wherry and others have started drilling on the Weir heirs farm. In North Strabane Township Keystone Drilling Co. has reached 2,600 ft. on the Mary V. Nell test, with Fifth sand at 2,477-2,510 ft., and 260,000 cu. ft. of gas at 2,482-85 ft. In South Fayette Township Homer Nixon and others are testing gas at 2,333 ft. in the Hundred Foot sand, in the John Wallace test.

In Beaver County, Andrews Brothers completed a ½-bbl. well on the J. W. Ramsey farm, in Hanover Township, in the Berea grit.

WEST VIRGINIA

In Gilmer County, West Virginia, Bowser Oil & Gas Co. completed the test on the Zana (Robert) V. Mitchell farm in DeKalb district, at 1,770 ft., the Maxton sand, and it is good for 25 bbl. a day.

In Ritchie County Mole Hill Oil & Gas Co. completed the second well on the Zackquil Darnell farm in Clay district in the Cow Run sand at 1,142 ft., and it is good for 8 bbl. a day.

Gas Wells

In Boone County Rich Fork Gas Co. deepened No. 7 Croft Land Co., in Scott district, beginning at 2,305 ft. Oriskany was topped at 4,484 ft. It gaged 260,000 cu. ft. in 24 hours, after the shot.

In Cabell County Bowen Gas Co. completed No. 3 Walter Childers, in McComas district, at 3,320 ft. It gaged 280,000 cu. ft. a day after shot in the Brown shale at 2,900-3,310 ft. West Virginia Gas Corp. completed a gas well on the J. H. Adkins farm at 3,284 ft. It gaged 148,000 cu. ft. a day.

In Calhoun County McCall Drilling Co. completed No. 2 White Hall, in Sherman district, at 2,027 ft. Gas gaged 148,000 cu. ft. a day, at 1,976-81 ft. and 2,001-26 ft. Hope Natural Gas Co. completed No. 7847, on the Roscoe F. Lockney land, at 2,237 ft. for 75,000 cu. ft. at 2,185-93 ft.

In Clay County Thompson Gas Co. completed two wells, Nos. 15 and 16, on the Thompson Land & Coal Co. tract in Pleasant district, at 1,965 ft. and 1,909 ft., with a gage of 231,000 and 492,000 cu. ft. of gas a day, respectively.

In Gilmer County Elliott and Cain completed the test on the W. W. Wright farm in DeKalb district in the Injun sand at 1,893 ft. and it is good for 500,000 cu. ft. of gas a day. In this district the Hope Natural Gas Co. deepened No. 1 S. A. Beall in Injun sand to 1,950 ft. and it gaged 200,000 cu. ft. of gas a day, along with 2 bbl. of oil. Clem S. Morris drilled on the P. P. Gregg farm to 2,140 ft. and it was dry and abandoned.

In Kanawha County Owens, Libby-Owens Gas Department completed a gas well on the Fred S. Supples farm in Washington district, at 3,877 ft., the Brown shale, and it gaged 1,256,000 cu. ft. a day.

In Roane County O. H. Reed and others drilled a dry hole on the M. J. Hughes and others land, through the Salt sand to 1,812 ft.

In Wayne County R. H. Adkins completed a 308,000-cu. ft. gas well on the C. W. Keck farm, in Union district, at 3,337 ft.

In Wetzel County W. H. Swisher's test on the Quince Lemon lease in Proctor district, total depth 631 ft., was good for 84,000 cu. ft. of gas a day.

Oriskany Gas Field

In Poca district, Kanawha County, Godfrey L. Cabot, Inc.'s second well on the Putnam Co. lease, was completed at 5,057 ft., with the Oriskany topped at 5,022 ft. and a final gage of 6,100,000 cu. ft. of gas a day. Columbian Carbon Co.'s test on the Celeste Parcell farm, topped the Oriskany at 5,199 ft. with a gage of 1,443,000 cu. ft. a day at 5,232 ft. Columbian's test on the Mose Pushkin farm in Elk district topped the Oriskany at 5,132 ft. with 2,559,000 cu. ft. a day at 5,158 ft.

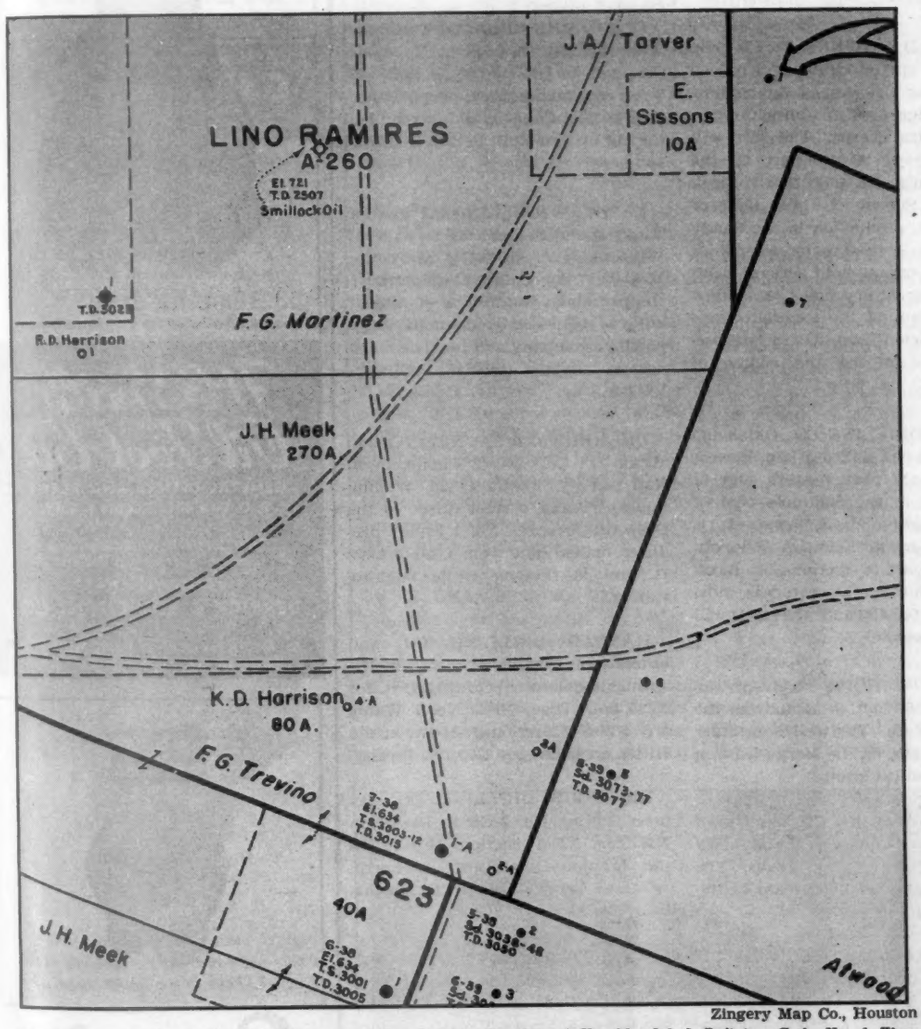
Southwest Texas District

By F. L. SINGLETON

Increase in Drilling Follows Extensions, New Pay Sands

CORPUS CHRISTI, Tex., Sept. 11.—An increase in drilling activity was indicated for the Southwest Texas district the past week as several fields receoved important extensions, and new sands continued to be tested in many fields.

Humble Oil & Refining Co.'s No. 1 King ranch marked up a 5,000-ft. north extension to the Colorado field, Jim Hogg County, when the well flowed 435 bbl. per day through a ⅝-in. choke under a tubing pressure of 225 lb. and casing pressure 700 lb. The sand section was topped at 3,032 ft. and was cored to a total depth of 3,041 ft. This is the best producer on the Colorado field and indicates that the most prolific part of the structure lies to the north as the sand section is reported to be more porous than in the southern part of the field. This field was discovered in August 1936 and only eight wells have been completed. Development has been held up because all the wells in the south portion have been small producers. Another factor has been the large ownership held by Humble Oil & Refining Co. However, the latest well is close to a large tract held by independent operators, and offset locations are being made.



Zingery Map Co., Houston

Portion of the Colorado field, Jim Hogg County, showing location of Humble Oil & Refining Co.'s No. 1 King ranch, an important extension producer

Magnolia Petroleum Co. No. 1 Dale Maun, 1 mile west of the discovery well of the La Gloria field, Jim Wells County, was testing a new sand, and late in the week the well was reported to be swabbing an unestimated amount of 24.8-gravity oil. The hole is bottomed at 7,233 ft., and the test is being made through perforated casing at 7,219-30 ft. where a recent drill-stem test showed 2,250 ft. of pipe-line oil and 20 lb. of working pressure.

In the Ben Bolt field, Jim Wells County, R. E. Bryant's No. 1 W. W. Smith is reported to have shown salt water in a deep sand at 5,394-5,404 ft. and the hole is expected to be plugged back to the regular horizon where a drill-stem test showed pipe-line oil.

The first production on that part of the large King ranch adjoining the southern part of the Luby field, Nueces County, was opened as Humble Oil & Refining Co. prepared to complete No. 1 King ranch-Chiltipin, after the well showed pipe-line oil on a drill-stem test. Sand showing oil was cored at 5,057-60 ft. and the well flowed pipe-line oil for 18 minutes. Working pressure was built up to 96 lb. Casing was cemented on bottom and a production test is being made through perforated casing at 5,054-57 ft.

Premont Oil Co.'s No. 1 Langham, a wildcat, in Section 25, Benton Pasture subdivision, Antonio Longoria grant, is being watched with interest as sandy shale and sand having a slight oil and gas odor were logged at intervals at 5,033-84 ft. The well is shut down for repairs after a 15-minute drill-stem test at 5,050-95 ft. showed no pressure, 360 ft. of oily mud, and 30 ft. of salt water.

Sal Viejo Oil Co.'s No. 1 Riser, discovery well of the Mountain View field, Live Oak County, has been completed at 2,478-84 ft. as a gas well. It is in Survey 232, about 8 miles south of the White Creek field. The hole was drilled to a total depth of 3,011 ft. and much attention was attracted several weeks ago when it flowed various amounts of oil and salt water on a production test at 2,135-40 ft. In view of the showing additional development is expected to be started within the next few months.

In the Agua Dulce field, Nueces County, Union Producing Co.'s No. 1 W. H. Wallace showed salt water on two production tests at 6,770-92 ft. and at 6,640-50 ft., and the hole had been plugged back for another test. The hole had been drilled to 7,250 ft. and 7-in. casing cemented at 6,840 ft. after an electrical survey showed favorable indications.

Two oil wells were added to the Minnie Bock field and a third well was in process of completion. C. Andrade's No. 1 Hilliard extended the field a short distance to the east when it flowed 110 bbl. daily through a 5/32-in. choke. Seven-inch casing was cemented on bottom at 3,831 ft. and the well was completed through perforations at 3,818-22 ft. Awoeb Oil Co. perforated casing at 3,821-24 ft. in No. 2 Bock, and completed it for an initial production of 115 bbl. per day, flowing through a 9/64-in. choke. C. Andrade's No. 2 Hilliard cored oil sand at 3,811-26 ft., total depth, and casing was cemented on bottom.

Davis' Big Purchase

In Starr County W. R. Davis & Co. purchased the holdings of the Transwestern Oil Co. and D. D. Oil Co. in the Rincon field for a consideration of $500,000. The deal involves approximately 6,000 acres, with Transwestern Oil Co. and D. D. Oil Co. retaining a one-eighth overriding royalty. The purchaser is to start construction within the next few months of a recycling plant with a daily capacity of 60,000,000 cu. ft. of gas per day. It is reported that W. R. Davis & Co. will drill 20 wells in the field, 10 of which will be drilled to the 5,600-ft. horizon for recycling purposes, and the balance to the 4,200-ft. sand which produces crude.

Sun Oil Co.'s No. 1 C. V. Lopez, an outpost northwest of the Sun field, Starr County, is bottomed at 4,965 ft. and oil sand at 4,938-56 ft. is being tested. A recent drill-stem test in this sand showed pipe-line oil. Location for a 5,700-ft. wildcat was made in the county by Randon Oil Co. for No. 1 Margo, in Lot 9 of the Randon subdivision of the Margo ranch in the Los Comitas grant. Several major companies hold protection around the well.

In the Laredo district, and in Webb County, O. W. Killam's No. 1 fee, Block 16, Survey No. 1859, is shut down waiting for orders after two drill-stem tests at 1,187-1,215 ft. and 1,200-27 ft. showed various amounts of oil and fresh water. Sand showing oil was logged at intervals at 1,201-43 ft.

In the Angelita field, San Patricio County, Welling-

(Continued on Page 96)

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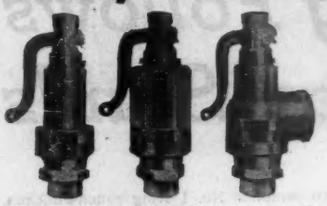

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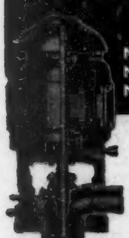

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Among the Drilling

MYER DRILLING CO., Denton, Tex., will drill a new wildcat test staked in Parker County, West Central Texas. Test is the Ed Cunningham, Charlie Carter and Ed Wynn's No. 1 Dr. E. F. Yeager. Operators hold 2,500 acres around the location which is in the northeast corner of the John W. Helms Survey, 14 miles northwest of Weatherford and the same distance northeast of Mineral Wells. Contract depth is 1,000 ft.

SNEBOLD & OWENS, Fort Worth, Tex., have staked location for a deep wildcat test just west of the shallow Sandy Ridge pool of Jones County, West Central Texas. The test will be in the northwest part of the Jeffreys farm, NE¼ Section 7, Block 15, T.&P. Survey, ⅝ mile west of the 2,000-ft. production in the Sandy Ridge pool. Several major companies and independents hold acreage nearby and several dry holes to shallow depths surround the location; however, projected deep, it will be closely watched during the course of drilling.

OSAGE DRILLING CO., Oklahoma City, Okla., has staked a ¼-mile west outpost to the northwestern edge of production in the Seminole pool of Gaines County, West Texas. It is the company's No. 1-A Tippett, northeast part of Section 266, Block G, W.T. Survey. Operator is moving in materials and the test will begin immediately.

ROWAN & HOPE received contract for a 5,700-ft. wildcat from the Randon Oil Co. The well is in Starr County, Texas, on the Margo lease in the Los Comitas grant.

McDANNALD OIL CO. has rigged up for a 6,000-ft. test at the Mykawa field in Harris County, Texas. The well is on the Schmeltz lease in the R. Boatright Survey.

COASTAL WELLS SURVEYING Co. abandoned W. Stewart Boyle's No. 1 I. G. Britton, a wildcat north of the Louise field in Wharton County, Texas. The hole was quit at a total depth of 5,767 ft. The rig is being moved approximately 2 miles north of the same operator's No. 1 T. N. Menefee.

JOHN H. BLAFFER is preparing to make a production test at his No. 1 J. H. P. Davis, located on the south flank of the Thompson field in Fort Bend County, Texas. The hole is bottomed at 5,400 ft. and 5½-in. casing was cemented at 5,350 ft. The well is about 2,500 ft. south of production.

EDWARDS DRILLING CO. completed Stanolind Oil & Gas Co.'s No. 1 Wilcox, located in the east extension area of the Turtle Bay field, Chambers County, Texas, and the rig is being moved to Edwards Drilling Co.'s No. 1 Sloan, located in the same area.

OLSON DRILLING CO., Tulsa, and Wade Paxton, Pawnee, at No. 1 McCollough, in NE cor. of Section 5-23-5e, in the Ralston area, near Pawnee, in Pawnee County, Oklahoma, had the rig up and were getting ready to spud.

EASTERN DRILLING CO. has definitely abandoned at 1,906 ft. its No. 1 Williams NW cor. NE¼ of Section 12-53-32, Clay County, Missouri. It stopped about the middle of August, but was requested by Magnolia, a supporting company, to drill a little deeper. Depth at that time was 1,844 ft.

HELMERICH & PAYNE, INC., and Mazda Oil Co.'s No. 2 Finley, in A. Nail Survey, Abstract 325, Wichita County, Texas, a west offset to the Deep Oil-Christie's No. 1 Finley producer, drilled sand from 4,280 to 4,309 ft. and is flowing while running tubing.

HARBAR DRILLING CO. and others have completed a well in the Arbuckle dolomite below 3,300 ft. for 1,725 bbl. The well is No. 7 Waite, NW SW SW Section 21-31-4w, in the Hittle pool, Cowley County, Kansas.

BIG FOUR DRILLING CO. has been drilling No. 2 Sarah Rector in NW cor. NE¼ Section 24-19-7e, in the Jennings-Oilton area of northwestern Creek County, Oklahoma, below 2,500 ft.

WYNN DRILLING CO., Tyler, Tex., has been awarded the contract for a 10,000-ft. wildcat test on the Percilla structure of Houston County, eastern Texas. It will be for Shell Oil Co., Inc., as its No. 1 George E. Dorsey & Co., 808 ft. from the southwest and 900 ft. from the south line of the Dorsey 102.7-acre tract in the M. Salas league. Test will be carried to the Woodbine sand, which will be thoroughly tested; then it will continue to the lower Trinity sections. Only 4,500 ft. from the discovery oil producer for Houston County, the test is located on the same basic structure.

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HOUSTON, TEXAS

The drilling company is moving in materials and the entire 10,000 ft. will be drilled with rotary.

R. T. MYERS, Chillicothe, Mo., has been given the contract for a wildcat test in Anderson County, eastern Texas, and it will be drilled with a string of tools obtained from Richards & Holloway, Inc. Projected to the Woodbine sand the test is the Albert Baggett, of Kilgore, No. 1 U. R. Gillespie, in the Franklin area and 3 miles northeast of the townsite. It is on a block of around 1,200 acres which Baggett acquired several months ago on agreement to start a well by the middle of September. According to last reports the test had spudded and set surface casing.

TARGET DRILLING CO., Tulsa, has been awarded the drilling contract on a 5,000-ft. wildcat test in Hardeman County, North Texas. The company is moving in rotary for the operation, which is for G. T. Kimble, of Wichita Falls, as his No. 1 J. M. Walling, C NE SW Section 368, Block H, W.&N.W. Survey. Location is on a block of 2,900 acres donated by the Gulf Oil Corp., and is located 10 miles northwest of Goodlett. It is 5 miles northwest of the projected 7,800-ft. wildcat test now drilling as the Amerada Petroleum Corp.'s No. 1 Rice, Hardeman County.

C. E. BEAL is drilling No. 1 Morton, two locations north of No. 1 M. Anthis in the new Dunn pool, Creek County, Oklahoma. The well is drilling in shale below 1,850 ft. C. E. Beal drilled the first two wells in the pool for W. M. Dunn. These are No. 1 Emma Anthis, NW SE SE Section 34-14-10, completed in the Misener sand and No. 1 M. Anthis, SE NW SE Section 34-14-10, which has been producing 100 bbl. per day from the Misener and Wilcox sands.

J. R. HIGGINS DRILLING CO.'S No. 1 Worley, NE SW SE Section 34-14-10, Tuskegee district, Creek County, Oklahoma, was completed in the Misener and Wilcox sands. No. 2 Worley was drilling below 2,750 ft., in the southeast corner of the Worley 40 acres.

JOHNSON-KEMNITZ DRILLING Co., Oklahoma City, Okla., and McGraw Oil Co., Tulsa, have been drilling below 1,000 ft. at No. 1 Godfrey-Neff, in SW SE NE Section 14-6s-6e, near Madill, in Marshall County, Oklahoma.

FAIN DRILLING CO.'S No. 1 John Matson, a semiwildcat in the NE SE Section 36-20-9w, ¼ mile south of production in the Bornholdt pool of McPherson County, Kansas, was drilling below 3,306 ft. in the chat where some oil was found. The chat was picked up at 3,292 ft.

HI-SPEED DRILLING CO. and A. B. Speaks' No. 1 Sala, NW NE NW Section 33-13-6, south of the Laffoon pool and north of Prague, Lincoln County, Oklahoma, set surface pipe.

PORTABLE DRILLING CO.'S No. 4 Byrd, NE SE SE Section 29-7-5, Pottawatomie County, Oklahoma, topped the Viola lime at 4,015 ft. and was rigging up standard tools with 7-in. pipe cemented at 4,074 ft.; hole is bottomed at 4,080 ft.

Bringing in Union Producing Co.'s No. 1 Woodruff, southwest of Yazoo City, Miss.

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Michigan Field Report

By
O. C. PRESSPRICH

Conservation Is Effective in Preventing Too Many Wells

SAGINAW, Mich., Sept. 11. — New developments were practically devoid of features last week in the Michigan oil industry as unsettled conditions in the industry as a whole, and the effects of emergency proration curtailment in the state, began to make themselves felt. Completions declined. However, there was a slight pickup in prospective new operations, as 28 drilling permits were issued, 6 more than in the previous week.

Potential production of crude was increased only 4,370 bbl. a day. Operations produced 15 new oil wells, 2 more gas wells and 11 dry holes, including one unsuccessful gas test.

Holding to its current position as No. 1 field in the state, Kent County's Walker Township area set the pace with seven completions, all producers, which contributed nearly 60 per cent to the new potential. Trailing was the Salem field in Allegan County with five new oil wells. There were two in Wyoming Township, which abuts Walker, and one in Wise Township, Isabella County. The new gas wells are in Clare and Arenac counties.

Socony-Vacuum Oil Co. had three of the new producers in Salem, one of them gaging 802 bbl. a day, after acid. It was in Section 11. The field's other new wells were of usual productivity, between 100 and 155 bbl. a day. To the south, in Trowbridge Township, some importance was attached to completion of a small well, acidized to 15 bbl. a day.

Central Michigan activity was confined to one completion in Wise Township, Isabella County, where Turner Petroleum Corp. got a 100-bbl. producer, and in Freeman Township of Clare County, where Taggart Brothers, Inc., added a small natural gas well to its string. Northerly, W. E. Ross completed a 4,050,000-cu. ft. gas well in Section 9 of Arenac's Clayton Township. A gas test in Wright Township of Ottawa County was abandoned by West Michigan Consumer Co.

Further evidence of the decline in Van Buren County was seen as the result of four abandoned tests. Two of the failures were in Bloomingdale, two in Columbia.

Drilling Permits

State Conservation Department permits for the week included 7 for Kent County, 6 for Allegan, and 15 others, scattering 1 or 2 throughout 10 other counties. The list indicates Pure Oil Co. is ready to resume development of its extensive holdings in the rich Redding field of Clare County. To be watched with interest will be two Sun Oil Co. tests, one in Section 5 of Rutland Township, Barry County (3n-9w) and another in Section 2, Norwich Township, Missaukee County (24n-5w).

Indication of attention due the northern section of Michigan's Lower Peninsula was seen in the leasing of 10,879 acres of state-owned land in five counties. The state Conservation Commission offered 16,116 acres. Nine bidders took leases, paying $717.

Fisher & McCall Oil & Gas Co., in the biggest individual deal, took the entire 4,268 acres leased in Presque Isle County. Other sizeable blocks were taken by Pure, Gulf, Sun, and Cities Service Oil companies. Acreage leased by counties: Arenac, 1,860; Gladwin, 1,150; Montmorency, 1,860; Osceola, 1,000.

Following is the completion report for the week:

Allegan County

Salem Township (4n-13w)—Initial production from the five new completions in the Salem field ranged from 129 to 802 bbl. a day. Three of the wells are Socony-Vacuum Oil Co.'s properties. The Socony-Vacuum's No. 2 Balthaser Fein, NW SE NW Section 2, did 155 bbl., its total depth being 1,738 ft. The same company's No. 5 J. and M. Norgaard, NE SW SW Section 2, rated 129 bbl. a day after acid, total depth being 1,640 ft. Best of the five was Socony-Vacuum's No. 7 Theresa Weber, SE NE NE Section 11, completed at a total depth of 1,566 ft. and having initial daily potential of 802 bbl. Bridger-Basin Oil Co. completed No. 1 Elmer Smith, NE NW SE Section 15, at 1,585 ft. and got production of 130 bbl. a day after treating with acid. Yield was 150 bbl. a day from No. 4 Alois Smith estate, SE SE NE Section 22, after an acid treatment. The well is a J. V. Wicklund Development Co. enterprise.

Trowbridge Township (1n-13w)—Harry W. Leman, trustee, completed No. 1 F. and B. Green, SW SE SE Section 21, at 1,362 ft., but results were meager, production, after the acid shot, being only 15 bbl. a day.

Arenac County

Clayton Township (20n-4e)—A gas well producing 4,050,000 cu. ft. a day was completed by W. E. Ross. It is No. 2 Archie Berry, NE SE SE Section 9, with total depth of 1,216 ft.

Clare County

Freeman Township (18n-6w) — Taggart Brothers, Inc., increased its string of natural-gas wells with completion of No. 15 L. R. Perkins, C SW Section 14. Completed at a depth of 1,509 ft., it rated 3,360,000 cu. ft. daily.

Isabella County

Wise Township (16n-3w)—A moderate pickup in activity in the Wise field was marked by completion by Turner Petroleum Corp. of No. 1 Goldie Walton Jones, NW SW SW Section 16, at a total depth of 3,708 ft. After-acid production was 100 bbl. a day.

Kalamazoo County

Climax Township (3s-9w)—Smith Petroleum Co.'s No. 1 Sam D. Lamb, C E½ SE NE Section 6, an exploratory test, was abandoned as dry after drilling to 1,423 ft.

Kent County

Caledonia Township (5n-10w) — Two tests to the south and east of the prolific Walker field were abandoned as dry. Drilling ended at 2,000 ft. in No. 1 Burt Niemeyer, NW NW SE Section 10, and at 2,086 ft. in No. 1 Ernest W. Ruehs, SE SE NW Section 30. Andrew Dooley and others drilled the Niemeyer test while the other was a project of Muskegon Development Co.

Walker Township (7n-12w) — Biggest new well of the week in Michigan was Voorhees Drilling Co.'s No. 3 Cummings, SW SW SE Section 30, rating 1,200 bbl. naturally, at a depth of 1,843 ft. It was one of four Section 30 completions. Others are: No. 2 George Reddering, NE SE SE, having initial potential of 700 bbl. a day, naturally, completed at 1,905 ft. by Smith Petroleum Co. and others; Muskegon Development Co.'s No. 1 Albert Wirth, C W½ SE NW, rating 288 bbl. after acid and completed at 1,918 ft., and Wolverine Natural Gas Corp.'s No. 2 Frances Hoey, SE SE SW, completed at 1,872 ft. for an initial daily potential of 340 bbl., naturally. Gordon Oil Co. and others reported after-acid production of 200 bbl. a day from No. 2 R. Willdeboer, SE NE NW Section 31, which had total depth of 1,892 ft. Ide & Glavin Development Corp. completed No. 1 George Burgess, SE SW NE Section 32, at 1,955 ft., to get a small producer. After-acid output was 35 bbl. a day, which was the same as production from the Wolverine Natural Gas Corp.'s No. 1 Luther M. Story, NE NW SW Section 32, which was completed at total depth of 1,888 ft.

Wyoming Township (6n-12w) — Hogan Brothers abandoned as dry, after reaching a depth of 2,265 ft., No. 1 Coit heirs, NE NW SE Section 2. Second of the Indian Mounds Park wells, drilled on Grand Rapids-owned property, has been completed by Rex Oil & Gas Co. No. 2 City of Grand Rapids, SW SW SW Section 3, rated 100 bbl. a day naturally. Total depth is 1,775 ft. Initial production is less than a tenth of that from the first completion on the lease. Welsh Oil Co.'s No. 3 Pere Marquette Railway, NE SE NW Section 3, completed at a depth of 1,784 ft., was acidized to bring production potential to 300 bbl. daily.

Ottawa County

Jamestown Township (5n-13w)—An exploratory test was abandoned as dry at 1,803 ft. It was the Brailey Oil Syndicate's No. 1 John Weurding, NW SE SE Section 33.

Wright Township (8n-13w)—West Michigan Consumers Co. failed with a gas test when no showing was obtained after 1,391 ft. of drilling on the No. 1 Schoenborn, NW SE NW Section 4.

Van Buren County

Bloomingdale Township (1s-14w) — Two Section 6 tests were abandoned as dry holes. They were the Bert Goens' No. 2 Harris, SE SE SW, at 1,240 ft., and L. W. Lawrence's No. 1 Frank Tenant, SW SW NE, at 1,268 ft.

Columbia Township (1s-15w)—James E. Flanigan's No. 2 D. Lovejoy, NW SE NE Section 13, failed to show oil and was abandoned at a depth of 1,238 ft. Also a dry hole, abandoned after 1,208 ft. of drilling, was Sprenger Brothers' No. 2 A. Ford, NE NE SW Section 12.

Yazoo's New Well

(Continued from Page 74)

Section 13-10n-3w, a little over ⅛ mile north of the discovery well, in the same section. Tentative location also has been made for No. 1 Perry, C NW NW Section 24-10n-3w, a little less than ⅛ mile south of the discovery well. West and east offsets also may be called for shortly.

Considering Union Producing Co. owns or controls between 8,000 and 10,000 acres around the well in an almost solid block, there is little opportunity for an active drilling play in the area. Any development by this company is expected to be projected on a systematic, conservative program, confined largely to necessary offsets.

Some leasing around the outskirts of the Union block which is some distance from the discovery well, has been reported, but due to the newness of the find, and the lack of knowledge of the producing sand and conditions, conservative operators are a little hesitant about getting into the play pending further development. The producing horizon, found at 4,540-50 ft., a sand in a chalk section, topped at 4,430 ft. in the uppermost part of the Cretaceous, as yet has not been identified, and nothing is known of its extent or productivity other than the showing of the discovery well. Although the well appears to be a good producer the sand may be a stray and of limited extent, which leaves potentialities of the area a matter of question.

Of interest in connection with the discovery of oil in Mississippi is the fact that the state has no form of proration, due to past lack of necessity. A Conservation Department is operative, but its duties are largely concerned with issuance and checking of drilling permits, regulation of casing programs and protection of formations, plugging and abandoning of wells and recording of logs and well records.

North and East Texas

By D. H. STORMONT

Archer Is Center of Interest; Houston County's Deep Test

WICHITA FALLS, Tex., Sept. 11.—The North Texas district experienced a very busy week, the majority of the activity centering in the Hull-Silk area of Archer County, the Rogers pool a mile west of Nocona in Montague County, and the closely-watched southwest quarter of Clay County.

Rapid development in the area between the Hull-Silk pool proper and the Sikes pool to the northeast has practically linked the two pools. Led by the completion of Bert Ligon's No. 1 Johnson about a month ago, the intervening land has been drilled until there is now little more than 1 mile of undrilled acreage between the R. & G. Drilling Co.'s No. 1 J. A. Little, recent completion, and the southwest edge of the Sikes pool. Linking of the original Johnson area with the R. & G. Drilling Co.'s No. 1 Little was accomplished during the week at Bert Ligon's No. 2 Carson, in the southeast corner of the middle 80 acres of the east 240 acres of Block 1, H.T.&B. Survey. This test drilled oil sand from 4,317 ft. to 4,325 ft. and the operator cemented casing on top of sand. New completions are reported weekly for this extension area, the regular 4,300-ft. pay and in the shallow pay opened by Ligon. The shallow wells are drilled as twin wells to the deep ones.

Offsetting the original discovery well in the Rogers pool a mile west of the town of Nocona, Montague County, Rogers & Rogers' No. 2 Burnett, second completion from the new pay horizon opened by Youngblood & Foree's No. 1 Davis, is rated as the best well in the field with a flow of 124 bbl. of oil in 90 minutes from saturated sand at 4,279-4,304 ft. Operators plan to drill No. 3 Burnett north of the new completion. The field was originally opened from the 4,600-ft. level, but Youngblood & Foree's No. 1 Davis found the 4,600-ft. level barren, and plugged back for completion at 4,300 ft. to open the new oil zone. There are now three 4,600-ft. wells and two 4,300-ft. wells in the field.

Also in Montague County Continental Oil Co. and S. J. Sackett's No. 1 J. T. Brown, G. E. Nabours Survey, Abstract 1416, 5 miles north of the town of Bowie, drilled broken sand showing oil from 3,710 ft. to 3,734 ft. and recovered a trace of oil on a 15-minute drill-stem test. Another section of slight saturation was found at 3,745-50 ft. The crew was last reported drilling ahead below 3.775 ft.

In the Benton & Holmes pool of Montague County Phillips Petroleum Co.'s No. 1 Custers, offsetting the deep discovery of the pool, is shut down for orders after topping granite wash at 3,678 ft. and finding only slight showings of oil.

Clay County's intensive Strawn wildcat campaign yielded another dry hole during the week as L. T. (Bobby) Burns abandoned No. 1 Calloway, Block 9, Hopkins C.S.L. Survey, 1 mile southwest of Blue Grove and approximately 4 miles northeast of the Burns pool. Believed a new pool opener last week, the well showed only water sands on an electrical survey, and the operator abandoned it at 5,260 ft. The indicated producing sands in the dry hole were at 5,202-12 ft. and at 5,240-60 ft. Mr. Burns was reported considering a second test on the Calloway tract.

Official completion for the Frabor-Hodges and Mid-Union Drilling Co.'s No. 1 Kinder, pool opener in Clay County, about 4 miles west of the Burns pool, was reported. It made 107 bbl. of oil and 10 bbl. of water in 24 hours from a total depth of 4,158 ft. Location is in Lot 11, Block 2, Clark & Plumb Survey. The relatively small initial potential of the pool opener does not restrict it from offering some of the most important information available in the area. The significance of the well lies in the fact that it is producing from the same horizon as the Adams Oil & Gas Co.'s No. 1 Moer, completed more than a year ago near the town of Scotland in eastern Archer County. The producing horizon of these two wells is different from both the Burns pool and the Halsell pool farther north and in Clay County.

A new 5,000-ft. wildcat test was reported for Hardeman County. G. T. Kimble of Wichita Falls was moving in rotary for No. 1 J. M. Walling, C NE SW Section 368, Block H. W.&N.W. Survey. It is located on a block of 2,900 acres acquired from the Gulf Oil Corp. and is 10 miles northwest of Goodlett. Spreads in the vicinity of the wildcat are held by the Magnolia Petroleum Co., S. W. Richardson, Sunray Oil Corp., and several others. Location is 5 miles northwest of the Amerada Petroleum Corp.'s No. 1 Rice, deep 7,800-ft. projected wildcat test which is now drilling below 6,435 ft.

NORTH TEXAS COMPLETIONS

Archer County

Deep Oil Development and R.G. Drilling Co.'s No. 1 Dr. J. A. Little, 4,320-43 ft., 1,800 bbl. Hammon and Hanlon-Buchanan's No. 1 Ferguson B, 3,779-3,881 ft., 507 bbl. Bert L. Ligon's No. 2 S. D. Johnson, 4,300-35 ft., 1,920 bbl. Ligon and Deep Oil's No. 2 T. J. Moss A, 4,291-4,325 ft., 892 bbl. Bert L. Ligon and others' No. 4 Mrs. M. T. Moss B, 1,700 ft., dry. J. S. Smith's No. 3 J. T. Longley, 930-46 ft., 45 bbl.

Clay County

Frabor-Hodges and Mid-Union Drilling Co.'s No. 1 R. C. Kinder, 4,120-60 ft., 157 bbl. Griggs & Hotham's No. 1 S. B. Householder estate, abandoned location.

Cooke County

R. H. Alexander's No. 1 S. E. Jones, 1,545 ft., dry. Kewanee Oil Co.'s No. 3 A. Hyman B, 1,160-1,310 ft., 6 bbl. Pace Petroleum Corp.'s No. 17 R. E. Aldridge, abandoned location. W. H. Peckham's No. 2 S. D. Meador, 1,485-1,537 ft., 10 bbl. Mrs. L. B. Smith's No. 1 F. J. Truebenbach, 910-48 ft., 10 bbl. S. S. Staley and others' No. 1 B. Voth, 1,705-10 ft., 138 bbl. C. E. Sykes' No. 1 J. T. Rosson, 1,101-30 ft., 8 bbl.

Jack County

Harper & Knappenberger's No. 2 C. B. Jones and others, 3,224-57 ft., 350 bbl. The M. E. Oil Co.'s No. 9 Brentmore, Inc., 451 ft., dry.

Montague County

Phillips Petroleum Co.'s No. 1 R. F. Custer, 3,767½ ft., dry. Rogers & Rogers' No. 2 J. E. A. Burnett, perforated casing 3,786-4,307 ft., 2,528 bbl. United Production Co. and Continental Oil Co.'s No. 1 D. A. Braman, 3,795-3,844 ft., 208 bbl.

Wichita County

Magnolia Petroleum Co.'s No. 153 H. Reilly, 1,325-46 ft., 360 bbl. Consolidated Oil Co.'s No. 1 E. M. Barnes B, 3,948-4,006 ft., 562 bbl. Deep Rock Oil Co.'s No. 6 E. H. Hamilton, 3,764-3,882 ft., 808 bbl. E.C. Oil Co.'s No. 4 A. W. Burnside, 3,906-4,028 ft., 632 bbl. E.C. Oil Co.'s No. 15 Anna Mangold, 3,810-3,842 ft., 880 bbl. Hanlon-Buchanan, Inc.'s No. 1 C. F. Collins and others, 3,932-4,007 ft., 1,040 bbl. H. Hines and Humble's No. 7 Waggoner Brothers, 3,794-3,864 ft., 312 bbl. P. G. Lake, Inc.'s No. 5 Mary E. Reilly, 3,895-3,940 ft., 1,072 bbl. Perkins & Cullum's No. 20 S. B. Burnett, 661-71 ft., 10 bbl. Pois & Schulz's No. 19 Ed Foster J, 930 ft., dry. Royal Petroleum Corp. No. 1 R. B. James, 3,940-4,003 ft., 912 bbl. Shell and Phillips' No. 9 D. R. Preston A, 3,798-4,002 ft., 864 bbl.

Wilbarger County

King Oil Co.'s No. 6 R. L. Castleberry, 3,195-3,218 ft., 1,007 bbl. Pois & Schulz and others' No. 1 R. Guiggisberg, 2,141 ft., dry.

Young County

Kadane-Griffith's No. 1 A. G. Sanders, 4,287 ft., dry. Texas Co.'s No. 7 J. K. Jeffery A, 708-45 ft., 26 bbl. Trentman Co.'s No. 2 Morrison heirs, abandoned location. M. L. Massingill and others' No. 1 N. B. Carter estate, 3,160 feet, dry. H. Zweifel's No. 3 D. R. Sewell A, 3,761-3,841 ft., 18,000,000 cu. ft. of gas.

EASTERN TEXAS

DALLAS, Tex., Sept. 11.—Eight new wildcat locations, one of which will be a 10,000-ft. test, marked the activity of the week in the eastern Texas district. Work in the entire district showed a decided increase with 11 wells added to the East Texas field, 2 completed in the Long Lake field of Anderson County, and 3 in the Talco field of Franklin and Titus counties.

By far the most important location staked was J. C. Wynne, of Tyler, and others' (Shell Oil Co., Inc.) No. 1 G. E. Dorsey, a scheduled 10,000-ft. test nearly 3 miles south of Percilla in north Houston County. Operators are moving in materials to start immediately. Location was marked 900 ft. from the south and 800 ft. from the west lines of a 102-acre tract in the M. Sallas Survey. The well is near the center of a 14,000-acre block held by Shell for several years. The scheduled 10,000 ft. is expected to take the hole into the Glenrose series, although little is known of formations below the Woodbine in the area. It will be the most southerly deep test yet drilled in the East Texas basin.

Other new wildcat locations were made in Anderson, Fannin, Grayson, Hunt and Rusk counties. The Anderson County wildcat is Albert Baggett's No. 1 J. R. Gillispie, in the J. R. Ferguson Survey, 2½ miles northeast of Frankston. It is 330 ft. from the west line and midway from the north and south lines of Block 8, on a 1,463-acre tract. Operator is rigging up material. The hole will be carried to the Woodbine sand.

Far up in the northern part of eastern Texas and in Fannin County, C. Newburn has made location for No. 1 A. G. Allen, M. Caldwell Survey, 7 miles northeast of Bonham. It is 2,500 ft. from the east and 6,500 ft. from the north line of the survey and in a 50-acre tract. Derrick has been erected and drilling will start immediately.

Also in the northern part of eastern Texas, in Grayson County, J. M. Jones' No. 1 Golling in the I. Southward Survey, 10 miles northwest of Denison, has 12½-in. casing cemented at 18 ft. and was last reported preparing to drill ahead below 601 ft. after finding slight shows of oil and gas at that depth.

Hunt County's Campbell area, long in line for a test, has a new location in the Raymond Hedge, of Tyler, and others' No. 1 R. E. Hale, ½ mile northwest of the townsite. The location is 330 ft. out of the northwest corner of a 212-acre tract in the G. W. Wright Survey. It is contracted to the Woodbine sand.

In Rusk County A. O. Whittington is building derrick for No. 1 Kangerga Brothers, located in the Ignacio Castro Survey, 9½ miles north and a little east of Pirtle. It is contracted to the Woodbine sand.

Navarro Crossing Pool

Completions are expected in the next few days in the Navarro Crossing field, both in the Houston County portion and in the Leon County extension area. On the west side of the field and in northern Houston County, McGlothlin's No. 1 Sun-Dailey topped the Woodbine at 5,839 ft. and drilled to a total depth of 5,891 ft. Casing was set at that depth and perforated at 5,886-89 ft. with 10 shots. The test was last reported washing in, preparatory to taking initial gages. Possibility of extending production in the Leon County

(Continued on Page 100)

Oklahoma Operations

By
DAL DALRYMPLE

Kingfisher, Cleveland County Wildcats Near Decisive Stage

Wildcats in Kingfisher and Cleveland counties held attention of Oklahoma oil operators as they continued to give promise of opening new productive areas. Completions of the week included sizable wells in the Ramsey and Coyle areas, Payne County, and the Fitts district in Pontotoc County. A well that extended the St. Louis field of Pottawatomie eastward to the Seminole County line in July was listed as a completion the past week. Testing was under way at a deep well in the West Doyle area, Stephens County. Location for a new test in Texas County, Oklahoma Panhandle, was announced.

Anderson-Prichard Oil Corp. and others' No. 1 Geis, C NE SW Section 15-18-9w, wildcat northwest of Kingfisher in the county of that name, has shown sufficient gas in basal Pennsylvanian at 7,347-57 ft., total depth, to cut the mud and cause heaving in the hole. The hole bridged two times in the last 10 days. Considerable weight material was added to the mud but operators were unable to kill gas. Casing was to be run. Contract depth was for Wilcox sand or 8,500 ft. Location is on a 7,000-acre block of leases held jointly by Anderson-Prichard and Magnolia companies.

Sinclair Prairie Oil Co.'s No. 1 Ward, SE SE SE Section 30-7-1e, wildcat near Lexington in Cleveland County, recovered 300 ft. of fluid, half oil and half mud, on drill-stem test, opened 1½ hours. Saturation was found in Wilcox sand at 6,794-6,804 ft., total depth, with packer set on top of the sand. It was checking about 78 ft. higher structurally than a nearby dry hole. The crew was circulating and it appeared likely casing would be run, although another core was expected to be taken before doing so.

Phillips Petroleum Co.'s No. 1 Coombs, SE SW NE Section 4-1n-5w, northeast offset to the discovery well in the West Doyle pool, Stephens County, plugged back from 7,155 ft., total depth, and perforated casing at 5,703-10 ft., and fluid rose 2,000 ft. in the hole, including about 300 ft. of oil, the remainder mud and no salt water. The crew bailed to bottom and fluid, including some oil, was rising slowly in the hole.

Cabot Carbon Co.'s No. 1 Smith, SE NW SE Section 20-3n-15e Cimarron meridian, Texas County, had started work. It is north of Guymon, in the Oklahoma sector of the Hugoton gas field. Development of the Texas County part of the big gas field has been slow because of lack of market, but an area about 20 miles long north and south and 12 miles wide east and west has been proven for gas production by scattered wells in the county. Production of wells completed in the Guymon area has ranged as high as 15,000,000 cu. ft. of gas daily.

Newman Brothers have started a Wilcox sand test in NE NW SE Section 21-12-14, in the Hoffman area, Okmulgee County. Sand is expected at around 2,800 ft. Operators were drilling below 225 ft. in shale.

Estimated Daily Production

Estimated daily production for Oklahoma in the first week following lifting of the shutdown was as follows:

Pool—	Bbl.
Fitts	15,000
Oklahoma City	56,150
Seminole area	60,000
St. Louis	20,250
Other pools	103,600
Total Oklahoma	255,000

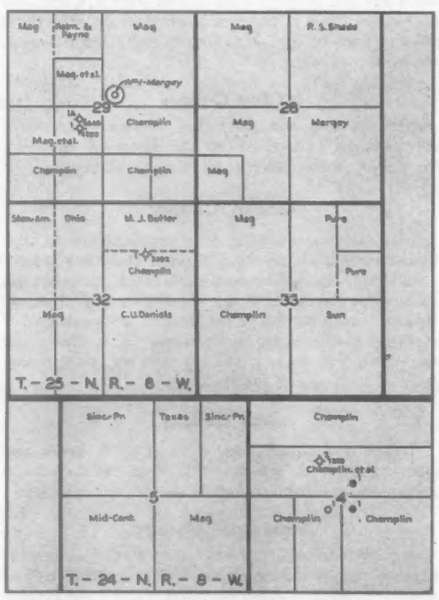
Among the Wildcats

Sands Petroleum Co.'s No. 1 Matthews, C W½ NW SE Section 5-11-9, Okfuskee County wildcat, found Hunton lime at 4,008 ft., was bottomed at 4,065 ft., electrical survey failed to reveal anything, and it was dry and abandoned.

Westcott & Nagle's No. 1 Kramer, NE NE NE Section 17-12-1w, wildcat in the Nicoma Park area, Oklahoma City, failed to find oil in first Wilcox sand at 6,575-85 ft., or second Wilcox sand at 6,640-60 ft., total depth, and was dry and abandoned. It had claimed interest because it had checked high structurally on some upper markers.

Alma Oil Co.'s No. 1 Johnson, SW NW SW Section 19-6-5, wildcat about three-fourths of a mile northeast of the Gray pool, Pottawatomie County, and 2 miles southwest of Sacred Heart, had sand at 2,890-2,900 ft., perforated casing there and pumped 231 bbl. of 32-gravity oil in 4 hours, cutting 1 per cent. It was drilled to second Wilcox sand at 4,025-62 ft., total depth, but was completed in the upper zone.

T. E. Iglehart's No. 1 Keiner, NE NE SE Section 4-6-5, a July discovery nearly 1 mile southeast of production in the St. Louis field, Pottawatomie County, was listed as a completion the past week. Dolomite was topped at 4,044 ft., 7-in. casing set at 4,050 ft., total depth 4,071 ft. After acidizing with 5,000 gal. it flowed 1,550 bbl. of oil in 24 hours. Later it pumped 946 bbl. in 24 hours, cutting 10 per cent.



Midcontinent Map Co., Tulsa

Magnolia Petroleum Co.'s No. 1 Margay, Section 29-25-8w, is a new wildcat test northwest of the Hillsdale pool, in Section 4-24-8w, Garfield County, Oklahoma

Same operator's No. 1 Campbell, SW NE SW Section 4-6-5, had spudded. It was more than ½ mile southwest of the Keiner extensioner and ½ mile southeast of other St. Louis production.

Work was started at a new wildcat in Jackson County at English Drilling Co.'s No. 1 Aetna, SE SE NE Section 26-3n-20w, about 3 miles east and 3½ miles north of Altus. Machine was being rigged up.

Pottawatomie County

T. E. Iglehart's No. 1 Zoeller, SE SE NE Section 4-6-5, north offset to the Keiner extension well in the St. Louis field, Pottawatomie County, was acidized with 5,000 gal. and pumped 145 bbl. of oil and 1,500 bbl. of water in 24 hours. Dolomite was topped at 4,095 ft., total depth 4,122 ft.

W. A. Delaney and others' No. 4 Bruno, NW NE SE Section 31-7-5, had dolomite at 4,110 ft., total depth 4,148 ft., was acidized and pumped 240 bbl. of oil and 300 bbl. of water daily.

Clark's No. 3-A Starrett, SE SE SE Section 16-5-5, topped Viola lime at 2,430 ft., had Simpson dense at 2,516 ft., total depth 2,517 ft., was acidized and pumped 15 bbl. of oil in 24 hours.

Tabor's No. 7 Miller, NE SE SE Section 29-7-5, found dolomite at 4,115 ft., was bottomed at 4,203 ft., was treated with 5,000 gal. of acid, and pumped 300 bbl. of oil and 250 bbl. of water daily.

New work in Pottawatomie County: Mudge Oil Co.'s No. 3 Baptiste, SE NE NE Section 20-7-4, location; Magnolia Petroleum Co.'s No. 5 Billington B, NE NE NE Section 21-7-5, location; Campbell's No. 1 Vieux, SE SE NW Section 31-7-5, set 10-in. casing at 60 ft., waiting on cement.

Seminole County

W. J. Deaner's No. 1 Wood, NW NE SE Section 33-7-6, Dora area, Seminole County, had sand at 2,435 ft., broken sand at 2,815-2,904 ft., total depth 2,915 ft., plugged back to 2,904 ft., was shot and flowed 12 bbl. of oil in 24 hours.

Winona Oil Co.'s No. 1 Davis, SE SE NW Section 6-6-8, had dug cellar and pits. J. Garfield Buell's No. 1 Blankenship, NE SE SE Section 10-8-5, was drilling below 1,660 ft. Baker's No. 1 Newell, SE NE NW Section 3-10-5, was building rig.

Pontotoc County

Cooper Drilling Co.'s No. 4 McKinley, NW NW NE Section 23-2n-7, Fitts district, Pontotoc County, found sand at 1,336 ft., total depth 1,357 ft., was shot and pumped 80 bbl. of oil in 24 hours.

Simpson's No. 1 Bates, SW SE NW Section 26-2n-7, was acidized with 6,000 gal. and flowed 330 bbl. of oil in 3 hours, making potential of 2,647 bbl. of oil. It had Hunton chert at 3,882 ft., and was bottomed at 3,980 ft.

Arrowood Oil Co.'s No. 2 Julius, SE NE NW Section 6-4-7, found sand at 1,148-62 ft., total depth, and flowed 30 bbl. of 37.5-gravity oil in 24 hours. Gas was estimated at 3,000,000 cu. ft.

Sinclair Prairie Oil Co.'s No. 12 Rolls, CSL NE SW Section 28-5-8, Allen area, was shot and pumped 10 bbl. of oil in 24 hours from sand at 810-841 ft.; total depth.

Simpson-Roodhouse Drilling Co.'s No. 1 Thompson, SW SW SE Section 24-2n-7, was building rig.

Creek County

Two small producers in Creek County were completed. Tilley's No. 1 Gilbert, SE SW NE Section 1-17-9, had lime at 1,764-1,801 ft., was bottomed at 1,807 ft., acidized with 1,000 gal. and swabbed 8 bbl. of oil in 24 hours. It was deepened to Prue sand at 1,844-75 ft., total depth 1,880 ft., and completed for 10 bbl. of oil daily.

Willoughby's No. 1-A Brown, SW SW SW Section 31-18-10, an old well, was deepened from 1,850 ft. to Prue sand at 1,893-1,945 ft., total depth, and pumped 8 bbl. of oil and 5 bbl. of water daily.

Leavell Coal Co.'s No. 1 Johnson, SE NW NW Section 7-16-10, had Bartlesville sand at 2,428 ft. and was dry and abandoned at 2,550 ft.

Willoughby's No. 3 Sandlin, NW NW NE Section 6-17-10, had spudded.

Payne County

Mid-Continent Petroleum Corp. and others' No. 11 Ramsey, NW NW NW Section 18-18-2e, Ramsey pool, Payne County, was completed in Wilcox sand at 4,782-

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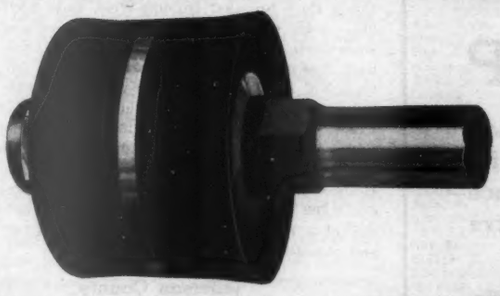

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4,801 ft., total depth. It flowed 835 bbl. of oil in 2 hours and potential was estimated at 10,037 bbl.

Heimerich & Payne's No. 2 Collins, C W½ NW NW Section 13-17-1e, Coyle pool, flowed 225 bbl. of oil in 24 hours and was completed in Wilcox sand at 4,872-4,900 ft., total depth.

Carter County

Kiester's No. 1 Laster, NW NE NW Section 30-2s-3w, Carter County, pumped 5½ bbl. of oil in 24 hours and was completed in sand at 361-376 ft., total depth.

Stephens-Caddo Counties

George Pace's No. 3 Bush C, NE SW NW Section 3-2s-8w, Stephens County, was bottomed at 2,237 ft., plugged back and perforated at 2,152-60 ft. and 1,539-50 ft., and pumped 20 bbl. of oil and some water daily.

Brainard's No. 5 Gilmore B, SW NW SE Section 10-2s-5w, Stephens County, had sands at 852-873 ft. and 881-908 ft., total depth 910 ft. It pumped 2½ bbl. of oil daily.

In Caddo County, Ray Stephens' No. 1 Pruett, SW SE SE Section 22-6-10w, west end of the Cement field, was bottomed at 4,938 ft., ran electrical survey to 4,727 ft. and was dry and abandoned.

New work in Caddo County: Peoples' No. 1 Wagner, SE NE SW Section 3-5-9w, rig on ground; Yorkan Production Co.'s No. 1 Lucas, SW NE SW Section 3-5-9w, location; Ray Stephens' No. 1 Wilhite, NE SE SE Section 28-6-10w, cellar and pits.

Gulf Coast Fields

(Continued from Page 79)

discovery well, flowed 230 bbl. of oil daily through a 5/32-in. choke, under a tubing pressure of 1,400 lb. and casing pressure 1,875 lb. The hole is bottomed at 8,114' ft. and the completion was made by perforating casing at 8,088-92 ft. It is reported that Sinclair Prairie Pipe Line Co. will lay approximately 9,000 ft. of 4-in. pipe into the field from the company's main line at Dayton.

In the Goodykoontz area, north of the Fairbanks field, Union Producing Co.'s No. 1 H. H. Bradley perforated casing at 7,015-24 ft. and was completed after an initial production of 114 bbl. of oil, flowing through a ⅝-in. choke.

Gas production in the Clinton field, Harris County, was extended ½ mile east when International Petroleum Corp. completed No. 1 J. B. Means. The sand was topped at 3,198 ft., and the well was completed at a total depth of 3,248 ft. No potential test had been made at the end of the week.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

(24-hour production)

Brazoria County

Hastings field: Stanolind Oil & Gas Co.'s No. 33-A W. R. Curkett, perforated casing 6,558-68 ft., 616 bbl., ¼-in. choke. Stanolind Oil & Gas Co.'s No. 18-C Hiram Moore, perforated casing 6,048-71 ft., 471 bbl., ¼-in. choke.

Chambers County

Barbers Hill field: Texas Gulf Producing Co.'s No. 28-B Kirby, sand 3,492-3,550 ft., 305 bbl., gas lift. South Cotton Lake field: Salt Dome Oil Corp.'s No. 1 Ira Williams, perforated casing at 6,506-11 ft., 105 bbl., ⅛-in. choke. Turtle Bay field: Stanolind Oil & Gas Co.'s No. 1 Wilcox, perforated casing at 6,550-53 ft., 119 bbl., ¼-in. choke.

Galveston County

League City field: Phillips Petroleum Co.'s No. 5 Lobit, perforated casing at 9,278-86 ft., 237 bbl., ⅛-in. choke.

Harris County

Clear Lake field: Humble Oil & Refining Co. No. 16-C Humble-West, sand 5,868-5,905 ft., 119 bbl., ⅛-in. choke. Humble Oil & Refining Co.'s No. 5 Hutchinson, 6,500 ft., dry and abandoned. Humble Oil & Refining Co.'s No. 18-C Humble-West, sand 5,921-26, 131 bbl., ⅛-in. choke. Clinton field: International Petroleum Corp.'s No. 1 J. B. Means, sand 3,210-48 ft., gas well. Fairbanks field: Amerada-Stanolind Oil & Gas Co.'s No. 10 Foley perforated casing 6,842-44 ft., 141 bbl., ⅛-in. choke. Union Producing Co.'s No. 1 H. H. Bradley, perforated casing 7,015-24 ft., 114 bbl., ⅝-in. choke. Friendswood field: Humble Oil & Refining Co.'s No. 39 Humble-West, 6,565 ft., dry and abandoned. Humble Oil & Refining Co.'s No. 15 West Production Co., 6,700 ft., dry and abandoned. Humble field: Humble Oil & Refining Co.'s No. 2 O'Connor, 4,743 ft., dry and abandoned.

Jefferson County

Lovells Lake field: Humble Oil & Refining Co.'s No. 8 Broussard, 7,790 ft., 168 bbl., ⅛-in. choke. Shell Oil Co., Inc.'s No. 2 Pleasant, sand 7,765-7,800 ft., 171 bbl., ⅛-in. choke. West Beaumont field: Stanolind Oil & Gas Co.'s No. 5 J. W. Hall, sand 5,357-75 ft., 285 bbl., ¼-in. choke.

Liberty County

Hardin field: Gulf Oil Corp.'s No. 3 M. F. Tullos, sand 7,624-30 ft., 339 bbl., ¼-in. choke. Humble Oil & Refining Co.'s No. 7-B Partlow, 7,676 ft., 43 bbl., 7/8-in. choke. Martha field: Stanolind Oil & Gas Co.'s No. 1 Seaberg, perforated casing 8,088-92 ft., 230 bbl., 5/32-in. choke. Esperson field: General Crude Oil Co.'s No. 4-B Esperson, perforated casing 7,200-62 ft., 347 bbl., ¼-in. choke.

Matagorda County

Bay City field: Atlantic Refining Co.'s No. 1 Glover, perforated casing 9,170-9,210 ft., 259 bbl., ¼-in. choke.

Polk County

Segno field: Humble Oil & Refining Co.'s No. 13-B Kirby Lumber Co., sand 8,098-8,192 ft., 100 bbl., ¼-in. choke.

Tyler County

Spurger field: Republic Production Co.'s No. 22 fee, perforated casing 7,693-7,708 ft., 168 bbl., ¼-in. choke.

Wharton County

Louise field: Brazos Young Corp.'s No. 1 John Macha, sand 5,120-42 ft., 138 bbl., open tubing. Magnet field: Humble Oil & Refining Co.'s No. 18 H. C. Cockburn, sand 5,532-43 ft., 27 bbl., ⅛-in. choke. Withers field: Texas Co.'s No. 35-B Pierce, perforated casing 5,559-64 ft., gas well.

Next week

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THE OIL AND GAS JOURNAL

TULSA, OKLAHOMA

Rocky Mountain Area

By T. R. INGRAM

3 New Sundance Sand Wells; Wildcatting in New Mexico

DENVER, Colo., Sept. 11.—The Continental Oil Co.'s No. 1 Meyer found saturation in the Dakota sand on the Fort Collins structure in northern Colorado while deepening from the Muddy sand to test the Sundance. After a drill-stem test, which indicated a small commercial well, drilling was resumed.

In Wyoming, the Ohio Oil Co. completed a 3,700,000-cu. ft. gas well in the Dakota on the Garland dome in its No. 2 Davis-Syverson. The Continental Oil Co. completed three wells in Lance Creek, its No. 5 A ex-4, for 1,005 bbl. from the Sundance; No. 4-A Diehlman, for 1,929 bbl. from the Leo, and No. 9-B Schuricht, for 422 bbl. from the Leo. Weston County had a small discovery in the Sundance in Bruce C. Teeters' No. 1 Government, on the Dewey dome, but is drilling on down to the Minnelusa.

In Montana, Cut Bank had one small completion, and there were two completions in Kevin-Sunburst, both small wells.

SOUTHEAST NEW MEXICO

Staking of a wildcat test in eastern Eddy County by Stanolind Oil & Gas Co., together with new outpost locations and indicated completions in several other pools in both Lea and Eddy counties, featured the week's activity in Southeast New Mexico.

Stanolind Oil & Gas Co. announced a wildcat test, No. 1 J. J. Zorichak, C NW SW Section 7-20-31, Eddy County. The location is approximately 4¼ miles northeast of the Getty area, and 2 miles west of the old Marland Oil Co.'s No. 1 Hale, a failure at 3,500 ft. Another dry hole between the new location and the Getty pool is the Continental Oil Co.'s No. 1-A Baird, dry at 2,274 ft.

Three tests were reported by Continental Oil Co. on its holdings in southeastern Lea County. A quarter mile to the southeast of production in the area between the Lynn and Cooper pools, Continental has staked No. 3-A-28 Lynn, C W½ SE SE Section 28-23-36. Earlier in the year, Continental Oil Co. opened production between the two pools with its No. 1-A-28 Lynn.

On the east side of the Mattix area, Continental Oil Co. staked its No. 5-B-27 Jack, 1,980 ft. from the south and 660 ft. from the east lines of Section 27-24-37. On the west side of the same area the company was rigging up for its No. 7-A-20 Jack, C NW NE Section 20-24-37.

Location to the east of production in the Monument pool, the Continental Oil Co.'s No. 8-B-15 Britt, Section 15-20-37, flowed 73 bbl. of oil in 7 hours with 606,000 cu. ft. of gas through ¾-in. tubing choke. The well had been acidized with 2,000 gal. at total depth of 3,882 ft. in lime.

On the east side of the Langlie area in southeastern Lea County Continental Oil Co.'s No. 1-A-2 State, Section 5-25-37, tested 1,250,000 cu. ft. of gas daily, with no oil, at 3,436 ft., total depth, in lime. The well continued testing as the week closed.

In the Loco Hills area of Eddy County, Allen, Fair & Pope's No. 4-A State, SE SW NW Section 36-17-29, was treated with 3,000 gal. of acid at a total depth of 3,252 ft. and as the week closed it was swabbing about 75 bbl. of oil daily.

At a southeast outpost to the Lovington pool of Lea County, Coastal Development Co.'s No. 1 Caylor, NW NW SE Section 6-17-37, was plugged back to 4,785 ft. from a total depth of 5,005 ft. and after swabbing only 30 per cent oil and the remainder salt water, was shut down awaiting orders to abandon.

Eddy County

Carper Drlg. Co.'s No. 4 Robinson, SE SE SW Sec. 25-16-31. Drlg. 4,003 ft.
G. R. Burke's No. 1 State, NE NE NW Sec. 36-16-24. Drlg. 1,240 ft.
B. H. Nolem's No. 1 Iles, SE SE SE Sec. 17-16-29. Skidded 15 ft. west, spd. new hole; drlg. 375 ft.
Allen, Fair & Pope's No. 4-A State, SE SW NW Sec. 36-17-29. T.D. 3,252 ft.; pay 3,200-11 ft.; C.O. 3,252 ft.; swbg. 75 B.O.P.D.
Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. S.D.R. 423 ft.
J. R. Cones et al's No. 1 Saunders, SE SE NW Sec. 13-17-27. W.O.C. 458 ft.
Danciger O. & R. Co.'s No. 5-A Turner, C N½ NW NW Sec. 19-17-31. W.O.C. 3,112 ft.
R. W. Fair's No. 1-B State, SE NW SW Sec. 36-17-29. Fsg. 3,050 ft.
Grayburg Oil Co.'s No. 1 State, NE SW SW Sec. 36-17-29. Drlg. 2,300 ft.
J. E. Hughes' No. 3 Brooks, NE NW NW Sec. 19-17-28. Drlg. 2,001 ft.
Plains Prod.'s No. 1 Daugherty, SE SE SE Sec. 11-17-27. T.D. 428 ft.; S.D.O.
Republic Prod.'s No. 3-B Robison, SE SE SE Sec. 35-17-29. Gas sd. 2,610 ft.; drlg. 3,094 ft.
J. H. Steinberger's No. 3 Hastie, NW SW SW Sec. 18-17-28. S.D. 566 ft.
R. R. Woolley's No. 1-B Woolley, SW SW SE Sec. 31-17-30. T.D. 2,832 ft.; S.O. at 2,825-30 ft.; prep. run tbg.; comp. 350 B.O.P.D.
Brainard & Guy's No. 1 Guy, NW SW NW Sec. 10-18-29. C.&P.
Plains Prod. Co.'s No. 1 Massie, C SW SW Sec. 27-18-29. Drlg. 1,590 ft.
Barney Cockburn's No. 1 Graham-State, C NE NE Sec. 16-18-31. Drk.
G. M. Cone's No. 1 Langford, C NW SW Sec. 9-18-29. Drlg. 2,635 ft.
Continental et al's No. 1 Travis, SE SE SE Sec. 3-18-29. P.B. 2,670 ft.; pmp. 65 B. fluid in 12 hrs.; ⅛ oil, ⅜ b.s. and w.
L. E. Elliott No. 1 Elliott, SE SE SE Sec. 24-18-29. Fsg. 3,170 ft.
Franklin Pet. Corp.'s No. 1 Masteller, NW NW NE Sec. 7-18-30. Loc.
Farmer & Tallmadge's No. 1 Hubbell, NE SW Sec. 4-18-25. S.D. repairs 1,050 ft.
Franklin Pet. Corp.'s No. 1 Cappedge, NW SW NW Sec. 5-18-30. Tstg. 5½-in. wtr. shutoff at 3,092 ft.; S.D.
E. S. McAuliffe's No. 1 Coates, C SE NE Sec. 3-18-23. S.D.R. 955 ft.
Me-Tex et al's No. 1-B Ballard, C NW NW Sec. 8-18-29. S.D.O. 3,117 ft.; sd. 2,952-60 ft.; S.S.O.
Saunders Bros.' No. 1 Travis, Sec. 17-18-29. Drlg. 2,560 ft. (no report).
Saunders Bros.' No. 1 Murdock, NW NW SW Sec. 4-18-29. S.I.; H.F.W.; T.D. 625 ft.
Fred Turner's No. 1 Nickson, C NE NE Sec. 30-18-26. S.D.O. 2,150 ft.
Underwood & Sanders' No. 2 Miller, SW NW NW Sec. 4-18-29. Drlg. by tools 2,405 ft.
Underwood & Sanders' No. 3 Miller, SE SW NW Sec. 4-18-29. P.B. 2,660 ft.; C.O. after shot.
J. W. Elliott's No. 1 Cannon (O.W.D.D.), C SW SE Sec. 4-19-30. S.D. 2,355 ft.
Trojan Oil Co.'s No. 1 Grant, SW SW NE Sec. 33-20s-25e. S.O. 1,530 ft.; standardizing 1,530 ft.

Chaves County

R. M. Baker's No. 1 Baker, NW NW NW Sec. 10-19-30. R. U. and S.D.
Caudill & French's No. 1-A Smith (O.W.D.D.), Sec. 1-4-29. Drlg. by csg. 3,686 ft.
Comanche Drlg.'s No. 1 Campbell, NE NE NW Sec. 15-11-26. P.B. 1,271 ft.; est. 2 B.O.P.D.; S.D.O. 1,343 ft., T.D.
E. J. Fisher's No. 1 Hill, CSL S½ Sec. 8-15-25. S.D.O. 100 ft.
Nay Hightower's No. 1 Billingslea, C SW NE Sec. 28-11-30. T.D. 3,445 ft.; P.B. 3,430 ft.; shot and C.O.; 100 ft. O.I.H.
Tarkenton Bros.' No. 1 Peters, SE SE NW Sec. 33-11-25. S.D.O. 1,159 ft.
Western Minerals, Inc.'s No. 1 Dow, C SW NW Sec. 27-10-30. S.O. 3,920-25 ft.; S.D.R. 4,090 ft.

Dona Ana County

Picacho O. & G. Co.'s No. 1 Armstrong, Sec. 15-23s-1w. S.D. repairs 2,410 ft., T.D.
Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. S.D. repairs 2,785 ft., T.D.

Luna County

O. D. Berry's No. 1 Berry, SE SE SW Sec. 33-22s-10w. S.D.O. 1,000 ft.

Lea County

L. H. Wentz's No. 1-A State, C SW SW Sec. 36-16-36. S.I. 4,980 ft.; comp. 68 B.O. in 10 hrs.
Coastal Development's No. 1 Caylor, NW NW SE Sec. 6-17-37. Tstg. 50 B.O. in 4 hrs.; T.D. 5,005 ft.
Paul Love's No. 3 Pearsall, C NW NW Sec. 33-17-32. P.B. 3,915 ft.; C.O. after shot.
Maljamar O. & G. Co.'s No. 2 Mitchell, SW SE SW Sec. 5-17-32. T.D. 4,498 ft.; P.B. 3,862 ft.; S.I.; P.B. depth 4,003 ft.
Ohio Oil Co.'s No. 1 State-Staplin, C SE NW Sec. 19-17-35. Drlg. 4,640 ft. (no report).
Continental Oil Co.'s No. 8 Britt B-15, C W½ NW SE Sec. 15-20-37. Tstg. 3,882 ft.; 73 B.O. in 7 hrs. after acd.
Wilson Oil Co.'s No. 1 Shell-State, C NE SW Sec. 7-21-35. Prep. test; S.O.&G. 3,680-97 ft.
J. C. Clower's No. 3 Christmas, SE SE NE Sec. 28-22-37. Drlg. 3,300 ft.
Peters & Elder's No. 3 Brunson, SW SW SW Sec. 3-22-37. W.O.C. 3,549 ft.
Lem Peters' No. 3 T. O. May, SW SW NE Sec. 34-22-37. S.I. 3,655 ft.
Skelly Oil Co.'s No. 1 Sherrell, C SW SW Sec. 31-24-37. C.&P.
Anderson-Prichard Oil Corp.'s No. 9 Wells, C SW NE Sec. 6-25-37. 48 B.O. and 50 B.W.P.D.; P.B. depth of 3,530 ft.
Continental Oil Co.'s No. 1 State A-2, C SW SE Sec. 2-25-37. Tstg. 3,430 ft.; 1,140,000 cu. ft. gas.
Hershback Drlg. Co.'s No. 1 Woolworth, NE NE SW Sec. 8-25-37. C.&P.

SOUTHEAST NEW MEXICO COMPLETIONS

Eddy County

Dixon & Yates' No. 2-B Ballard, Section 1-18-29, 2,735-54 ft., flowed 26 bbl. oil in 30 minutes through open tubing with an estimated daily rate of 1,200 bbl. Franklin Petroleum Co.'s No. 1-B Ballard, Section 1-18-29, 2,763-90 ft., plugged back from 2,855 ft., 50 bbl. oil in 6 hours after the shot. Franklin Petroleum Co.'s No. 20-A Yates, Section 6-18-30, 2,814-34 ft., 480 bbl. daily through open tubing, after shot. R. R. Woolley No. 1-D Woolley, Section 31-17-30, 2,830-42 ft., 350 bbl. daily through open tubing after shot.

Lea County

Continental Oil Co.'s No. 6-A-20 Jack, Section 20-24-37, 3,520-93 ft., 105 bbl. oil daily through 26/64-in. choke after shot. Danglode & Clower's No. 3 Owens, Section 34-21-37, 3,670-3,758 ft., 324 bbl. daily through open tubing after acid. Gulf Oil Corp.'s No. 8-E Mattern, Section 12-22-36, 3,665-3,750 ft., 362 bbl. daily, natural flow, through open tubing. L. H. Wentz No. 1-A State, Section 36-16-36, 4,665-4,980 ft., 68 bbl. in 10 hours through 18/64-in. choke.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc.'s No. 2 Pajarita, Sec. 32-9n-1e. Drlg. below 1,750 ft.

San Juan County

Continental Oil Co.'s No. 12 Table Mesa, NE NE SW Sec. 3-27n-17w. Drlg. sh. 815 ft.
Continental Oil Co.'s No. 96 Rattlesnake, NE NE SE Sec. 2-29n-19w. T.D. 50 ft.; cmtd. 8⅝-in. (first report).
Continental Oil Co.'s No. 100 Rattlesnake, NE NW NE Sec. 2-29n-19w. Drlg. r.b. 1,900 ft.

COLORADO

Archuleta County

Boone Dev. Co.'s No. 1 Newton, SE NW SE Sec. 18-33n-1e. T.D. 1,120 ft.; 10-in. stk.; rng. 8¼-in.

Adams County

Derby Dome O. & G. Co.'s No. 2 Baxter, C SE SW Sec. 2-3s-66w. S.D. 62 ft.

Boulder County

Continental Oil Co.'s No. 1 Borra, SE NE SW Sec. 5-1s-69w. T.D. 505 ft.; rmg. 9⅝-in. hole to 17½-in.
J. A. Warren's No. 3 Maxwell, NW NE NW Sec. 24-1n-17w. S.D. 975 ft.
Reynolds & Rorr's No. 1 Thomas, SW SW Sec. 17-1n-70w. S.D.O. 2,138 ft.; will D.D.

Custer County

Henry Donnelly's No. 1 Hughes, SE NE Sec. 26-21s-69w. Drlg. 765 ft.

Fremont County

T. E. Maloney's No. 1, SE NW Sec. 34-19s-69w. Drlg. 1,501 ft.
Waterville Oil Co.'s No. 2 Persons, CWL NE NE Sec. 17-19s-69w. Drlg. 175 ft.

Huerfano County

S. W. Pressey's No. 3 Campbell, NW NW NW Section 11-29s-69w, had show of oil at 500 ft., in same horizon as the Tomkins well 900 ft. to the west, but lost the hole without testing and skidded rig 25 ft. for No. 3-X Campbell. Last named is bottomed at 105 ft., 1 ft. in a horizon which showed for 5 bbl. per day. This oil was not encountered in No. 3 Campbell.

S. W. Pressey's No. 3-X Campbell, NW NW NW Sec. 11-29s-69w. Drlg. 105 ft.
J. W. Tomkins & Sons' No. 2 George, SE SE SE Sec. 3-29s-69w. S.D. 1,193 ft.; W.O. shooter.

(Continued on Page 94)

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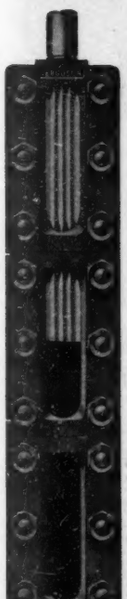

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E. J. Dunigan's No. 1 Campbell, SW NW Sec. 3-29s-69w. Drlg. 781 ft.
Ira E. Miller's No. 1 Hamilton, SE SE NW Sec. 20-29s-67w. Drlg. 1,187 ft.

Jackson County

W. N. W. Corp.'s No. 1 North Park Coal Co., NW NW Sec. 18-9n-78w. T.D. 4,100 ft.; U.R. 8¼-in.

La Plata County

Nick Splatter's No. 1-X Bryce, C SW SW Sec. 32-33n-9w. T.D. 2,352 ft.; cmtd. 8¼-in. at 2,240 ft. and 6⅝-in. at 2,352 ft. to save 1,500,000 cu. ft. of gas below 8¼-in.

Larimer County

Continental Oil Co.'s No. 1 Meyer, on the Fort Collins structure, an old producer in the Muddy sand being deepened from 4,496 ft. to test the Sundance sand, had a good show of oil in the Dakota sand which looks like it might make a small well, but after testing, drilling continued. It stopped at 4,683 ft. and set the tester at 4,658 ft. Open for 1 hour it filled 1,900 ft. with mud and oil, the oil being about 6 bbl. or equal to 150 bbl. per day. The Fort Collins area has never been tested below the Muddy. Two tests to the Sundance were drilled on the Wellington dome, 10 miles to the north, but both were barren. The north dome is faulted, with no evidence of faulting on the south dome.

Continental Oil Co.'s No. 1 Meyer, SW SE SW Sec. 19-8n-68w. Gr. sh. 4,734 ft.

Las Animas County

J. H. Hulme et al's No. 1 Azar, SE SE NW Sec. 27-34s-58w. Drlg. 1,712 ft.

Moffat County

Iron Springs Pet. Co.'s No. 1 Beckett, SE SE SE Sec. 9-9n-93w. M.I.M.
Stanolind O. & G. Co.'s No. 34-SD Parkinson, SW SE SW Sec. 22-4n-92w. T.D. 3,381 ft.; P.B. to 3,317 ft.; tstg.
Cooperative O. & G. Co.'s No. 1 Gossard, CWL E½ E½ Sec. 29-5n-93w. Spd. and S.D. to comp. R.U.
Steamboat Springs Synd.'s No. 1 Sutton, NE NE SW Sec. 1-5n-96w. T.D. 1,690 ft.; U.R. 6⅝-in. to S.O.W. in Morrison sd. at 1,672-86 ft.
J. S. Warner's No. 1 Baker, NE NE SW Sec. 35-5n-96w. S.D. 300 ft.

Montezuma County

McElmo Oil Co.'s No. 1 West, NE NW NE Sec. 31-36n-17w. Drlg. 5,030 ft.

Park County

South Park Oil Co.'s No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. 7,000 ft.; 30 ft. in hd. tight sd.; showing some sat.

Pueblo County

Eden O. & G. Co.'s No. 1 Horse Creek Ld. & Cattle, SW SE Sec. 29-19s-64w. S.D. 2,185 ft.

Rio Blanco County

Equity Oil Co.'s No. 7 Govt., SW SW SE Sec. 3-1n-102w. T.D. 506 ft. in sd.; tstg.
Equity Oil Co.'s No. 8 Govt., Lot 12, Sec. 10-1n-102w. Loc.
Equity Oil Co.'s No. 14 McLaughlin, NW SE Sec. 32-2n-102w. Drlg. 136 ft.
Raven O. & R. Co.'s No. 25 Govt., SE NW NE Sec. 31-3n-102w. Drlg. 890 ft.
Texas Co.-California Co.'s No. 2 Unit, NW SE SW Sec. 27-3n-94w. T.D. 6,702 ft.; cmtd. 7-in. at 6,696 ft. with 225 sacks; perf. progressively and tstg. Morrison sd.
Buford Oil Co.'s No. 1 Govt., C SW SW Sec. 16-1n-91w. T.D. 3,847 ft., in sd.; fsg. blt.

Routt County

L. C. Craig and L. C. Moore's No. 1-X Irwin, C SW NE Sec. 33-7n-85w. T.D. 1,625 ft.; prep. to run 8¼-in. to S.O.W. in top Dakota at 1,570 ft.

WYOMING

Albany County

J. L. Gaylord-R. G. McConnell's No. 1 Fuller, NW NE NW Sec. 7-15n-75w. Drlg. 1,015 ft. in Dakota; good S.O. in Muddy sd.

Big Horn County

The Ohio Oil Co.-Rocky Mountain Gas Co.'s No. 2 Davis-Syverson, SW SW NW Section 34-56n-97w, Garland field, was completed at 1,976 ft. for 3,700,000 cu. ft. of sweet gas per day through the tubing, with a bottom-hole pressure of 630 lb. It is an offset to Ohio's No. 1 Davis-Syverson, which was completed as an oil well in the Madison after encountering a flow of sweet gas in the Dakota which was mudded off to continue to the deep pay.

Frank S. Scott's No. 1 Robertson, SE SE SE Sec. 6-54n-93w. T.D. 620 ft.; fsg. blt.
A. L. Rankin's No. 1 Karjala-Rankin, C SW NW Sec. 10-54n-94w. S.D. 847 ft.

Carbon County

Ohio Oil Co.'s No. 1 University, SW SW SW Sec. 26-20n-78w. Drlg. by csg. at 2,260 ft.; O.W.D.D. to recomp. at 3,579 ft.
Sinclair-Wyoming Oil Co.'s No. 10-A Wertz, SW SE NW Sec. 7-26n-89w. Drlg. 6,131 ft.; made 4,130 bbl. through D.P. while drlg.
Albert Dev. Synd.'s No. 1 Boeke, SW NW Sec. 18-25n-79w. Drlg. 120 ft.
Producers Oil Co.'s No. 1 Lake Valley, CNL Sec. 14-20n-88w. S.D. 2,840 ft.

Converse County

New Era Fuel Co.'s No. 1 Simonson, NW NE SE Sec. 16-32n-68w. S.D. 783 ft. (C.D.); in White River.
Wyshawn Oil Co.'s No. 2 Lindley, C SW SW Sec. 35-32n-69w. T.D. 2,935 ft. in granite; will P.B.
W. W. Austin et al's No. 1 Pfister, SW NE NW Sec. 20-32n-68w. T.D. 713 ft.; cmtd. 5 7/16-in. at 710 ft.; S.G. in sdy. sh. 710-13 ft.
New Era Fuel Co.'s No. 2 Gasper, CNL NW SW Sec. 25-32n-69w. S.D. 750 ft.
New Era Fuel Co.'s No. 1 Pestal, SE NE NE Sec. 32-32n-69w. S.D. 540 ft.
U. & I. Oil Synd.'s No. 1 Beaver, SE NW Sec. 29-35n-68w. S.D. 200 ft. for csg.
Blue Ridge Oil Co.'s No. 1 Pokesh, SW NW SE Sec. 29-32n-69w. Drlg. 305 ft.; 10-in. at 300 ft.

Fremont County

Frank Pouppirt's No. 2 Fidelity Trust, NW NW SW Section 27-3n-1w, Pilot Butte field, was dry and abandoned at 1,200 ft.

Sinclair-Wyoming Oil Co.'s No. 11, CSL NE NE Sec. 15-32n-95w. Drlg. below 3,000 ft.
Pilot Oil Co.'s No. 8 Hoffman, C SW SW Sec. 22-3n-1w. Drlg. gr. sh. 950 ft.; S.O. 785-87 ft.
Consolidated Oil Properties' No. 3 Ewart, C SW SE Sec. 16-1n-1w. Drlg. 1,410 ft.

Hot Springs County

J. W. Bales' No. 1 Govt., CWL NW SE Sec. 21-42n-90w. Spd. to 70 ft. and S.D. for National rig; (test on Lysite Mtn. str.).
John W. Selby's No. 1 Kyne, SW NW Sec. 22-43n-92w. Spdg.

Lincoln County

E. T. Williams Oil Co.-Robert Miller Taylor's No. 1 State, NE cor. Sec. 36-25½n-115w. M.I. rig to C.O. and D.D. from 1,933 ft.
H. C. Harris et al's No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. 2,018 ft.; more wtr. at 1,930 ft.

Natrona County

Continental Oil Co.'s No. 1 McGrath, C NW SW Sec. 15-34n-78w. Drlg. 2,595 ft.
Connelly Drlg. Co.'s No. 1 State, SW SW NW Sec. 36-36n-81w. Drlg. below 1,300 ft.
General Pet. Corp.'s No. 1 Govt., C NW SE Sec. 21-35n-77w. T.D. 8,016 ft.; 6⅝-in. at 7,910 ft.; swbd. 165 bbl. in 8 hrs. from Dakota-Lakota.
Summit Oil Co.'s No. 2 Govt., NW NE NE Sec. 21-33n-80w. Drlg. 940 ft.

Niobrara County

Lance Creek had three completions and one new operation. The most interesting well was Continental Oil Co.'s No. 5 Apex-4, NE NE NW Section 35-36n-65w, which flowed 1,005 bbl. in 24 hours through 2⅜-in. tubing at 4,059 ft., from the basal Sundance sand, topped at 4,062 ft. Total depth is 4,112 ft. It is a west offset to the same company's No. 6 Rodeo-4, which made 380 bbl. at 4,090 ft., total depth. These two wells are the most easterly Sundance-sand wells in the field and ½ mile north of the nearest producers in that horizon.

The Continental Oil Co.'s No. 4-A Diehlman, SW NE NE Section 7-35n-65w, an inside well, flowed 1,929 bbl. first 24 hours at 5,332 ft., total depth, from the Leo sand at 5,305-30 ft.

The Continental Oil Co.'s No. 9-B Schuricht, NW SW SE Section 6-35n-65w, an inside well, flowed 422 bbl. in 24 hours from the Leo sand at 5,180-5,270 ft., with the tubing at 5,195 ft. Production will be combined with other "B" wells on the lease.

Argo Oil Co.'s No. 11-B Elliott, NE NE SW Sec. 5-35n-65w. C.&P. (first report).
Continental Oil Co.'s No. 4-B Diehlman, SW SW NW Sec. 8-35n-65w. Drlg.
Ohio Oil Co.'s No. 13 Lamb-Acct. 1, NW SE NE Sec. 5-35n-65w. R.U.R.

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Continental Oil Co.'s No. 7 Rodeo-4, SW SW NE Sec. 35-36n-65w. Drlg. sh. 1,940 ft.
C. L. Price's No. 2 Lamb, SE NW NW Sec. 7-35n-65w. Drlg. 985 ft.
Argo Oil Co.'s No. 10-A Elliott, SE NW SE Sec. 5-35n-65w. Drlg. 3,160 ft.
Argo Oil Co.'s No. 7 Ford, NW SE NW Sec. 33-36n-65w. Drlg. 3,190 ft.
A. B. Cobb's No. 4 Novick, SE SE SW Sec. 6-35n-65w. T.D. 5,238 ft.; cmtd. 7-in. at 5,175 ft.; top sat. 5,194 ft.; swbg. through tbg.
Ohio Oil Co.'s No. 3 Cash-1, SW NW SW Sec. 4-35n-65w. T.D. 5,443 ft. in sat. Leo sd.; 7-in. cmtd. 5,439 ft. with 475 sacks.
F. F. Hintze et al's No. 1 Wright-Govt., C NW SE Sec. 30-36n-63w. T.D. 4,964 ft.; cmtd. 7-in. at 4,617 ft. and S.D.
Fall River Roy. & Prod. Co.'s No. 1 Govt., CSL SE SE Sec. 35-40n-61w. Drlg. 2,060 ft.
Continental Oil Co.'s No. 10 Otto Rohlff, SW SW SE Sec. 31-36n-65w. Drlg. anhyd. 5,096 ft.

Park County

Stanolind O. & G. Co.'s No. 2 Ohio, NW NW NE Sec. 3-47n-100w. T.D. 1,344 ft.; R.U. to D.D. (Little Buffalo basin gas field).
Stanolind O. & G. Co.'s No. 36 Govt., SE SE NW Sec. 1-47n-100w. T.D. 1,551 ft.; cmtd. 7-in. lnr. at 1,159-1,545 ft.; will perf. and test various sds.

Platte County

Glentop Expltn. Co.'s No. 1, NE SE NE Sec. 18-30n-67w. Drlg. 563 ft. in White River form.

Sublette County

Joe Minton's No. 1 Govt., SE NE NE Sec. 28-27n-113w. Drlg. 758 ft.
Texas Co.'s No. 3-E, NE SW NW Sec. 27-27n-113w. T.D. 940 ft.; U.R. to lower 8⅝-in.
California Co.'s No. 1 Unit 1, C SW NE Sec. 14-31n-109w. T.D. 8,024 ft.; fsg. for tester in fine sd.; S.O.&G. reported.
Wyo. Pet. Corp.'s No. 1 Budd, C NE NE Sec. 10-29n-113w. S.D. 2,845 ft. for parts.
Yellowstone Oil Co.'s No. 1 Budd, C SE SE Sec. 6-30n-112w. Drlg. 880 ft. in L. and shells; will run 10-in. for W.S.O.

Sweetwater County

Sinclair-Wyoming Oil Co.'s No. 86-A, SE NE NE Sec. 10-26n-90w. Drlg. 240 ft. (first report).
Mountain Fuel Supply Co.'s No. 1 Mosey, NW NW NW Sec. 18-18n-104w. Drlg. 2,112 ft.
Wyoming-Calif. Pet. Corp.'s No. 2 Govt., CWL NW SW Sec. 24-17n-104w. R.U.C.T.
Sinclair-Wyoming Oil Co.'s No. 84-A, SW NW NW Sec. 11-26n-90w. Drlg. 1,978 ft.

Uinta County

Spring Valley Pet. Co.'s No. 13, CSL SE SE Sec. 22-15n-117w. R.U. to D.D. from 1,716 ft.; O.W.D.D.

Weston County

A discovery, although at this time it does not appear to be of major importance, was made in the Sundance sand at 980-1,017 ft., on the Dewey structure, northeast of Lance Creek, in Bruce C. Teeters' No. 1 State, SW NE Section 36-42n-61w, and drilling is continuing to the formations in the Pennsylvanian, which are productive at Lance Creek. The oil is black with a sulfur base and is under 30 gravity. It was estimated at 10 bbl. per day. The location is 2½ miles northwest of the Conway Oil Co.'s discovery several years ago in the SE NW Section 7-41n-60w, in the Pennsylvanian, which was rated at 20 bbl. per day. The new test was located by E. W. Krampert, geologist of Casper, who puts the location 225 ft. higher structurally on the Dakota sand than the discovery well. The Osage Trust has started a well to the south of the Conway discovery in Section 7.

Osage Trust's No. 1 Govt., NE NE NE Sec. 7-41n-60w. T.D. 600 ft.; fsg. (first report).
Butcher Bros.' No. 3, SW NW SE Sec. 16-46n-64w. Drlg. 150 ft.
Federal Oil Co.'s No. 10, CNL NE SE Sec. 15-46n-64w. Drlg. 500 ft.
Chas. Stough's No. 1, CSL NW SW Sec. 33-47n-63w. Drlg. 332 ft.
Gerald Bock's No. 3, CSL NW NW Sec. 31-47n-63. Drlg. 300 ft.
Patterson Oil Co.'s No. 20, NE SE SE Sec. 17-46n-63w. T. pay 421 ft.; drlg. in.
Whedon et al's No. 1, C SW NE Sec. 21-46n-64w. Drlg. blk. gritty L. 4,000 ft.
Bruce C. Teeters' No. 1 State, SW SW SE Sec. 36-32n-61w. Drlg. 1,375 ft.; will go to Minnelusa.
Dornacher & Neiman's No. 1 Neiman, NW NW NW Sec. 6-47n-64w. Drlg. 300 ft.
Lem Johnston's No. 1, NW SW Sec. 23-44n-63w. T.D. 3,563 ft.; fsg.
F. P. Dilger et al's No. 4 Ost, CNL NE NE Sec. 25-46n-64w. Cg. in Sundance below 2,300 ft.
Hunter & Satterlee's No. 1 Draper, NW NW NW Sec. 10-46n-63w. S.D. 160 ft. (C.D.); for repairs.
Kroker et al's No. 2, CNL NE NW Sec. 31-47n-63w. T.D. 375 ft.; W.O. new mch. to D.D.

MONTANA

Blaine County

Walter Drough et al's No. 1 Stam, CSL SW SE Sec. 10-31n-18e. Drlg. 1,315 ft. in Eagle sd.; S.G.

Carbon County

R. R. Tarrant's No. 2 McKay, C SE NW Sec. 1-6s-18e. Drlg. 2,990 ft.
Alex Beaton's No. 1, CSL SE SE Sec. 23-6n-23e. Drlg. 1,600 ft. in 8⅝-in. hole.
V. M. Kirk's No. 1 Robinson, SW SW NW Sec. 2-7s-21e. Drlg. below 4,900 ft.
Miracle Oil Co.'s No. 2 Govt., CWL NE SE Sec. 3-6s-23e. T.D. 2,381 ft.; fsg. tools at 1,600 ft.

Choteau County

Security Pet. Corp.'s No. 1 Johnson, C NE NE Sec. 23-26n-3e. T.D. 1,991 ft.; C.O. to res.

Fergus County

Emmons et al's No. 5 Stocker, SW NW SW Sec. 24-22n-18e. T.D. 960 ft.; rep. roads to res.

Glacier County

Cut Bank had only one completion, Glacier Production Co.'s No. 1 Bannister, NW NE Section 21-33n-5w, which swabbed 20 bbl. first 32 hours at 2,915 ft., total depth, after plugging back from 2,923 ft. The Cut Bank sand was at 2,905-15 ft.

Texas Co.'s No. 7 Sec. 9 Unit, C SW SW Sec. 9-32n-5w. Drlg. 2,224 ft.
Huber-Montana Co.'s No. 2 Hinstrager, C NW SW Sec. 24-37n-5w. Drlg. 2,650 ft.; tstd. 2,500,000 cu. ft. at 2,610-15 ft.; S.O. at 2,615-25 ft.
A. B. Cobb & Co.-Texas Co.'s No. 1 Vasboe, CEL NW SW Sec. 27-37n-5w. T.D. 2,677 ft.; T. Sunburst 2,655 ft.; sat. 2,666-72 ft.; making D.P. test.
Texas Co.'s No. 4 Hardwick, C NW SE Sec. 17-32n-5w. Drlg. 2,025 ft.
Glacier Prod. Co.'s No. 2 Hall, C NE SW Sec. 35-36n-6w. T.D. 2,335 ft.; cmtd. off tools.

Liberty County

Coolidge & Coolidge's No. 1 Forseth, CWL SW NW Sec. 8-35n-4e. R.U.

Meagher County

Dan Drumheller's No. 1 Moss Agate, SW SE NE Sec. 25-7n-7e. Drlg. 1,710 ft.

Pondera County

Pondera Oil Synd.'s No. 1 Haber, NE NW SE Sec. 17-27n-4w. Spdg. 60 ft.

Teton County

R. C. Tarrant's No. 1 Hoeschen, NE SE Sec. 34-27n-5w. Drlg. 2,170 ft.

Toole County

Kevin-Sunburst had two completions and two new operations.

The Big West Oil Co.'s No. 12 Dahlquist, NW NW NE Section 21-35n-2w, is making 8 to 10 bbl. per day from the contact at 1,821-37 ft. after being shot with 100 qt.

Coolidge & Coolidge's No. 1-B State, SW SW NE Section 36-36n-2w, swabbed 30 bbl. per day from the Sunburst sand at 1,595-1,640 ft. and is preparing to pump.

Frazer & Smith's No. 2 Van Note, NE SW NW Sec. 30-35n-2w. Drlg. 325 ft. (first report).
Coolidge & Coolidge's No. 1 Maley, SW NE SE Sec. 31-36n-1w. Spdg. 100 ft. (first report).
L. J. Yealy's No. 13 Shaw, NE SW SE Sec. 35-36n-2w. Drlg. 867 ft.
Italo Pet. Corp.'s No. 1 Cornett, C SW NW Sec. 30-37n-3w. Drlg. 1,470 ft.
Morton & Shaw's No. 1 Ellingson, NE NE NW Sec. 23-35n-3w. S.D. 400 ft.
G. & A. Oil Co.'s No. 14 Goeddertz, NE SE SW Sec. 23-35n-3w. T.D. 890 ft.; set 8¼-in. on bttm.
Nepstad-Montgomery-Fargher's No. 2 Haugen, SE SW SE Sec. 2-35n-3w. T.D. 1,620 ft.; good S.O. in Sunburst sd. at 1,610-20 ft.
Mosby Oil Corp.'s No. 2 Peterson, NE NW SE Sec. 7-35n-2w. T.D. 1,680 ft.; acd. at 1,672-80 ft. with 800 gal.; tstg.
Le Mac Oil Co.'s No. 1, SW SE SW Sec. 3-34n-4w. Drlg. 1,350 ft.
Kippen O. & G. Co.'s (formerly Lewiston Synd.) No. 1 Solberg, SE SW NE Sec. 20-35n-3w. S.D. 1,545 ft.
W. E. Rice Co.'s No. 4 Kearns, Lease 8, C W½ E½ SE Sec. 18-35n-2w. T.D. 1,570 ft.; rng. 6⅝-in.
C. L. Smith, Agt.'s No. 1 Govt., SW SE NW Sec. 13-35n-2w. T.D. 1,345 ft.; fsg.
Art Crabtree's No. 1 Thompson, NE SE NW Sec. 35-35n-2w. T.D. 1,594 ft.; P.B. to 1,483 ft.; stdg.; not tstd.
R. G. Parrent's No. 1 Holbrook, C NW NE Sec. 2-36n-3w. S.D. 1,370 ft.
Superior Pet. Co.'s No. 8-A Govt., CEL NW NE Sec. 12-35n-3w. Drlg. 1,720 ft.
W. M. Cassidy's No. 1 Phoenix, CNL NW NW Sec. 28-35n-4w. S.D. after D.D. into sat. Mad. L. at 2,325-58 ft.

Yellowstone County

Riverton Oil Co.'s No. 1 Fox, CEL NW NE Sec. 14-2n-23e. T.D. 1,975 ft.; U.R. 8¼-in. from 1,900 ft. to bttm.

SOUTH DAKOTA

Harding County

South Dakota State Roy. Co.'s No. 1 State, SW NW Sec. 35-18n-1e. Cmtd. 1,000 ft. of 13⅜-in.; W.O.C.

Illinois Fields

(Continued from Page 73)

In Franklin County Phillips Petroleum Co.'s No. 1 Boyles, NE NW SE Section 19-5s-3e, McClosky lime top at 2,800 ft., drilling at 3,005 ft.

In Hamilton County W. C. McBride, Inc.'s No. 1 Hurburgh, SE NE SE Section 35-5s-6e, drilling at 1,996 ft.

In Gallatin County B. Fields' No. 1 Logan, SE SW SE Section 17-9s-9e, Waltersburg sand at 1,770-1,800 ft., shot with 50 qt. The crew was swaging casing, with 800 ft. of oil in the hole.

In Jackson County Trumbull's No. 1 Bennett, C N½ NW NE Section 2-9s-5w, Ste. Genevieve lime top at 725 ft., drilling at 880 ft.

In Williamson County Williams and others' No. 1 Smathers, NE SE NE Section 9-9s-2e, rig up.

In Pope County Gardenshire & Smith's No. 1 Peoples, C SE SE Section 19-11s-5e, drilling at 525 ft.

In Johnson County Tunnell Hil Oil Co.'s No. 1 Boner, W½ SW NE Section 30-11s-3e, shut down for orders

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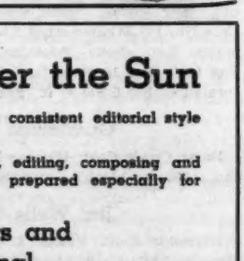

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at 2,367 ft. Coates and others' No. 1 Albright, NE NW SE Section 22-12s-2e, spudded and shut down.

In Monroe County Joe Kesl and others' No. 1 Schmidt, C NW Section 11-2s-11w, drilling at 840 ft. Davis & Brand's No. 1 Krause, CSL NW SW Section 30-3s-7w, drilling at 110 ft. Borden & Ipperson's No. 1 Schuster, NW NW SW Section 13-3s-8w, shut down at 170 ft.

OHIO FIELDS

FINDLAY, Ohio, Sept. 11.—Ten gas wells, three oil wells, and six dry holes were completed in the Ohio fields covered by this report. Oil production was confined to the shallow sands. Fair gas wells were completed in Licking, Monroe, and Stark counties.

Athens County, Lodi Township, Ohio Fuel Gas Co.'s No. 1 H. A. Lauer, Section 17, has an open flow of 60,000 cu. ft. of gas from the second Berea sand at 1,632-43 ft.

Cuyahoga County, Euclid Township, Harry Dempsey's No. 1 Kelly. Lot 27, was abandoned at 3,308 ft. A shot failed to increase the gas showing in the Clinton sand.

Guernsey County, Cambridge Township, Ronshausen and others' No. 1 Ollie Legge, Lot 12, is a small gas well in the Berea, total depth 1,121 ft.

Licking County, the Ohio Fuel Gas Co. completed two gas wells and one dry hole. In Mary Ann Township, No. 2 D. A. Benner, Section 25, had an open flow of 3,400,000 cu. ft. from Clinton sand at 2,548-81 ft. No. 1 Florence Hoover, Section 25, had an open flow of 290,000 cu. ft. from Clinton sand at 2,590-2,622 ft. In Newton Township, No. 2 Charles B. Wilson, fourth quarter, was dry, total depth 2,649 ft.

Medina County, Chatham Township, Preston Oil Co.'s No. 32 B. B. Parent, Lot 5, Tract 16, made 15 bbl. of oil the first 24 hours after a shot in Berea at 260-96 ft.

Meigs County, Bedford Township, A. Roberts' No. 1 Matilda Carleton, Section 21, is a small gas well in the Maxon sand, total depth 1,082 ft.

Morgan County, Marion Township, Bern Oil & Gas Co.'s No. 4 Oliver Edgerton, Section 19, was abandoned at 950 ft.

Muskingum County, Union Township, Atha Co.'s No. 3 D. N. Dailey, Section 15, had 100,000 cu. ft. of gas at 718-28 ft.

Southwest Texas Fields

(Continued from Page 83)

ton Oil Co.'s No. 6 Welder is bottomed at 7,042 ft. and casing was cemented to test a sand at 6,225-33 ft.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

(24-hour production)

Duval County

Benavides field: Benedum & Trees' No. 21 Puig, perforated casing 4,751½-59 ft., 118 bbl., 5/32-in. choke. Longhorn field: Longhorn Drilling Co.'s No. 8 Miller, 4,906 ft., 162 bbl. per day, 5/32-in. choke. Muralla field: J. F. Blanchard and others' No. 2 Parr, perforated casing 4,735-38 ft., 45 bbl., 7/64-in. choke. Piedra De Lumbre field: Magnolia Petroleum Co.'s No. 35 Duval County Ranch Co., sand 2,126-38 ft., 150 bbl., ⅝-in. choke. S. R. C. field: Transwestern Oil Co. and others' No. 27 Duval County Ranch Co., sand 1,017-33 ft., 20 bbl., ½-in. choke. Seven Sisters field: Wellington Oil Co.'s No. 1-G Welder, sand 2,542-45 ft., 67 bbl. in eight hours, ⅝-in. choke. Southland field: Hiawatha Oil & Gas Co.'s No. 16 Southland Life Insurance Co., perforated casing 5,300-08 ft., gas well.

Guadalupe County

Darst Creek field: Bluehawk Oil Co.'s No. 2 Robinson, 2,595 ft., 144 bbl., pumping.

Jim Wells County

Reynolds field: Pitkin & Goldston's No. 1 Rand Morgan, 5,203 ft., dry and abandoned.

McMullen County

South Calliham field: Bill Howard's No. 13 B. C. Claunch, 1,078 ft., dry and abandoned. Edwin M. Jones' No. 98 Ezzell, 1,253 ft., dry and abandoned.

Nueces County

Agua Dulce field: Union Producing Co.'s No. 2 Sponberg, perforated casing 4,592-4,605 ft., gas well. Clara Driscoll field: O. W. Killam's No. 1 Enriquez, 5,700 ft., dry and abandoned. Richard King field: Southern Minerals Corp.'s No. 3-A King, perforated casing 5,393-98 ft., 92 bbl., ¼-in. choke. Southern Minerals Corp.'s No. 7-B King, perforated casing 5,167-75 ft., 81 bbl., ¼-in. choke. Saxet field: Hiawatha Oil & Gas Co.'s No. 6-B Smith, 9,880 ft., dry and abandoned.

San Patricio County

McCampbell field: Corgey & Grote's No. 1 Porterfield, perforated casing 7,120-35 ft., 87 bbl., 9/64-in. choke.

Starr County

Rincon field: Rowan & Hope's No. 1 Dallas Joint Stock Land Bank, 4,506 ft., dry and abandoned.

Victoria County

Heyser field: Gulf Oil Corp.'s No. 23-B Traylor, sand 5,477-92 ft., 184 bbl., ⅛-in. choke.

Webb County

West Cole field: Magnolia Petroleum Co.'s No. 5 Benavides, sand 2,335-48 ft., 40 bbl., pumping.

La.-Ark. Fields

(Continued from Page 74)

Oil Co. No. 1 Hodge-Hunt Lumber Co., 1 mile northeast of production in the Bear Creek gas-condensate field in Bienville Parish, is testing for production, after perforating 7-in. casing, set at 7,313 ft., at 7,217-30 ft. Total depth is 7,947 ft. The Hunt Oil Co. is contemplating recycling operations if suitable unitization can be carried out, meanwhile Bear Creek gas production is finding outlet in a gas pipe-line system.

A new wildcat is under way in Caddo Parish, L. I. Davis' No. 1 Williams, C NW NW Section 14-15-15, 2½ miles south of Keithville and ¾-mile southwest of a gas-condensate well brought in several months ago. The wildcat is rigging up on a 10,000-acre block.

Caddo Parish's most important deep test is still an unknown quantity, as Stanolind Oil & Gas Co. continues coring below 7,250 ft. without giving out any information on its findings in No. 131 Dillon heirs, Pine Island.

In the Waskom area of Harrison County, Texas, Arkansas-Louisiana Gas Co. was coring ahead after testing 3,000,000 to 5,000,000 cu. ft. of gas at 6,100-20 ft. in its mile-southwest outpost, No. 1 Taylor.

ARKANSAS COMPLETIONS

Magnolia—Columbia County

Atlantic Refining Co.'s No. 1 S. Brown, C NW NE Section 22-17-20, 488 bbl. per day, ¼-in. choke, tubing pressure 1,100 lb., casing pressure 500 lb., total depth 7,635 ft. Atlantic Refining Co.'s No. 2 L. Spain, C SE SW Section 18-17-19, 252 bbl. per day, 14/64-in. choke, tubing pressure 1,200 lb., casing pressure 800 lb., 5½-in. casing 7,570 ft., total depth 7,600 ft. Phillips Petroleum Co.'s No. 2 Walthall, C SW SW Section 15-17-20, 389 bbl. per day, 16/64-in. choke, tubing pressure 1,300 lb., casing pressure 1,425 lb., total depth 7,720 ft. Southwood Oil Co.'s No. 2 Walthall, C SW NW Section 22-17-20, 332 bbl. per day, ¼-in. choke, tubing pressure 1,450 lb., casing pressure 1,500 lb., total depth 7,550 ft. Southwood Oil Co. and Arkansas Fuel Oil Co.'s No. 1 J. Johnson, C NE SE Section 22-17-20, 384 bbl. per day, ¼-in. choke, tubing pressure 1,400 lb., casing pressure 1,450 lb., total depth 7,640 ft. Standard Oil Co. of Louisiana's No. 1 Booth, C NW SE Section 24-17-20, 480 bbl. per day, 17/64-in. choke, tubing pressure 1,325 lb., casing pressure 1,325 lb., total depth 7,570 ft., 6-in. casing 7,485 ft.

Urbana—Union County

Lion Oil Refining Co.'s No. 1 Hill, C SE SE NW Section 6-18-13, 4,300,000 cu. ft. of gas, ¾-in. choke, shut-in pressure 1,100 lb., total depth 4,601 ft.

Champagnolle—Union County

J. R. Lockhart's No. 2 P. Jerry, 510 ft. S, 230 ft. W of NE cor. NE SE Section 15-17-14, 10 bbl. per hour, 1-in. choke, no gas, 12 per cent sediment and water, total depth 3,123 ft.

Schuler—Union County

Phillips Petroleum Co.'s No. 9 Sewell, C SW SW cor. NW Section 7-18-17, 31 bbl. per hour, 18/64-in. choke, tubing pressure 1,050 lb., casing pressure 700 lb., total depth 7,740 ft., perforated 7-in. casing at 7,595-7,628 ft.

MISSISSIPPI COMPLETIONS

Wildcat—Hinds County

G. Jefferies' No. 1 Gaddis Farms, Inc., 700 ft. E, 545 ft. S of NW cor. SE Section 26-7n-4w, salt water and abandoned 7,220 ft. (Eutaw formation).

Wildcat—Humphreys County

Union Producing Co.'s No. 1 Mrs. Mattie Box, C SW Section 15-14n-4w, salt water and abandoned at 5,652 ft.; igneous plug.

Wildcat—Issequena County

Ryan & Anderson, Inc.'s No. 1 State of Mississippi, 600 ft. N, 400 ft. E of SW cor. Section 36-12n-8w, salt water and abandoned at 3,534 ft. (Tuscaloosa formation).

Wildcat—Rankin County

Wilmut Oil & Gas Co.'s No. 2 Boehle, 122 ft. N, 560 ft. E of C Section 18-5n-2e, dry and abandoned at 2,470 ft. in blue shale (Midway).

Wildcat—Yazoo County

Union Producing Co.'s No. 1 G. C. Woodruff, C NW SW Section 13-10n-3w, 93 bbl. in 12 hours, ¼-in. choke, casing pressure 240 lb., tubing pressure 300 lb., set 7-in. casing 4,538 ft., total depth 4,560 ft.

NORTH LOUISIANA COMPLETIONS

Bellevue—Bossier Parish

J. B. Stovall's No. 1 Gayoso, NW cor. SW SW Section 14-19-11, pumping 60 bbl. per day, 50 per cent salt water, total depth 391 ft.

Caddo—Caddo Parish

J. G. Bailey and others' No. 2-A Muslow, 1,084 ft. N, 1,129 ft. W of C Section 17-20-15, pumping 5 bbl. of oil and 200 bbl. of salt water, total depth 1,571 ft. Ben Levy and others' No. 2 Crystal, SW NW Section 25-21-16, dry and abandoned at 2,293 ft.

Rodessa—Caddo Parish

East Texas Refining Co.'s No. 1 T. A. Howe and others, 450 ft. S, 660 ft. W of NE cor. Section 8-23-15, 376 bbl. per day, open tubing, total depth 6,112 ft., used 3,000 gal. acid.

Wildcat—Grant Parish

C. M. Bowers' No. 1 Morrison, 2,740 ft. N, 3,040 ft. W of SE cor. Section 34-9n-1w, salt water and abandoned at 1,717 ft.

Urania—La Salle Parish

H. N. Saurage's No. 5 Dean, 782 ft. S, 720 ft. W of NE cor. SE Section 23-9-1e, 15 bbl. of oil, 300 bbl. of salt water, total depth 1,593 ft.

Munroe—Morehouse Parish

Southern Carbon Co.'s No. 24 Tensas, Section 34-22n-4e, 3,331,000 cu. ft. of gas, open flow, rock pressure 855 lb., total depth 2,200 ft.

Bull Bayou—Red River Parish

H. B. Schumacher's No. 1 Crichton, C SW SW NW Section 18-13-10, dry and abandoned, total depth 1,450 ft.

Zwolle—Sabine Parish

Tropical Oil Co.'s No. 1 Long Bell, C NW SE SW Section 5-8-13, dry and abandoned, total depth 3,507 ft.

Wildcat—Sabine Parish

J. A. Williams' No. 1 Long Bell Lumber Co., 250 ft. S, 550 ft. W of C Section 33-8-14, dry and abandoned at 2,247 ft., showing of oil.

Munroe—Union Parish

Memphis Natural Gas Co.'s No. 1 Lankford, Section 20-22-4, 2,144,000 cu. ft. of gas, open flow, rock pressure 535 lb., total depth 2,188 ft.

EAST TEXAS BORDER COMPLETIONS

Rodessa—Marion County

Texas Co.'s No. 5 Braden, 466 ft. E line of lease, 1,150 ft. S, J. Fitzgerald Survey, 648 bbl. per day, ¼-in. choke, tubing pressure 960 lb., casing pressure 1,380 lb., total depth 6,003 ft.

California Field Report

By
L. P. STOCKMAN

Find Rio Bravo Pay High in Northwest Outpost to Field

LOS ANGELES, Calif., Sept. 11.—Of outstanding importance in the past week was the coring of oil sand in No. 1 Burner of Superior Oil Co., in the northwest end of the prolific Rio Bravo field in Section 27-28-25. Top of the productive Rio Bravo sand was cored higher structurally than the same zone had been found in other wells in the field. This tends to indicate that the Rio Bravo field will be larger than anticipated, because if No. 1 Burner is nearer the apex of the structure than other wells finished to date, the productive limits of the field will extend a considerable distance northwest of present production. If such proves to be the case, potentially productive holdings of Superior Oil Co. and Union Oil Co. may be increased by about 300 acres each, with a possibility that the former may exceed this amount. Acreage northwest of No. 1 Burner is broken into many small parcels and considerable drilling may be expected within a short time after completion of that well which logged top of the oil sand at 11,190 ft. and was still in the pay at its present depth, 11,226 ft. Preparations have been completed to run in a string of casing preparatory to an early production test. The Rio Bravo field, which contains a normal anticlinal structure, will probably prove to be long and rather flat with steep dips out on the flanks. Heretofore the highest well structurally in the field has been No. 1 Kern County Land of Union Oil Co., the discovery well.

Greeley

In the Greeley field of Kern County Standard Oil Co.'s No. 18 Kern County Land, in Section 17-29-26, was brought in flowing 2,065 bbl. of 35.6-gravity oil and 4,145,000 cu. ft. of gas per day from the Rio Bravo sand, through a 48/64-in. bean. Standard's No. 19 Kern County Land, in Section 18-29-26, was finished flowing 3,690 bbl. of 34.1-gravity oil through a 36/64-in. bean under a tubing pressure of 1,450 lb. and a casing pressure of 1,400 lb. Top of the Greeley or Stevens zone was cored at 7,763 ft. but when water was found in the sand, the hole was carried down to the Rio Bravo zone. Previous completions in the Rio Bravo in this field have shown substantial initial production, with the result that this horizon, in which only a few wells have been completed, is capable of producing in excess of 30,000 bbl. per day. No. 1 Ross, in Section 20-29-26, is held up with mechanical trouble with bottom of the hole at 10,440 ft. but inasmuch as the top of the fish at 10,355 ft. is below the shoe of the 8⅝-in. casing landed at 8,186 ft. it may be necessary to sidetrack and redrill. This well failed to find production in the Stevens zone and was then suspended to remain on the inactive list for several months. After the Rio Bravo zone had been found productive in the Greeley field, Standard resumed drilling operations in order to carry this well down for a test of the deep zone. Half way between the Rio Bravo and Greeley fields, Standard Oil Co.'s No. 12-5 Kern County Land has cored some oil showings that might be the upper part of the Stevens zone and a formation test will be made. A relatively short time ago Standard Oil Co. completed No. 12-6 Kern County Land as a commercial producer in an area about 1 mile southwest of the productive limits of the Greeley field. This may later be found to be a separate productive field, but the success of this work later prompted the company to move northwest of the Greeley field and resume deepening operations on No. 12-5 Kern County Land.

Montebello

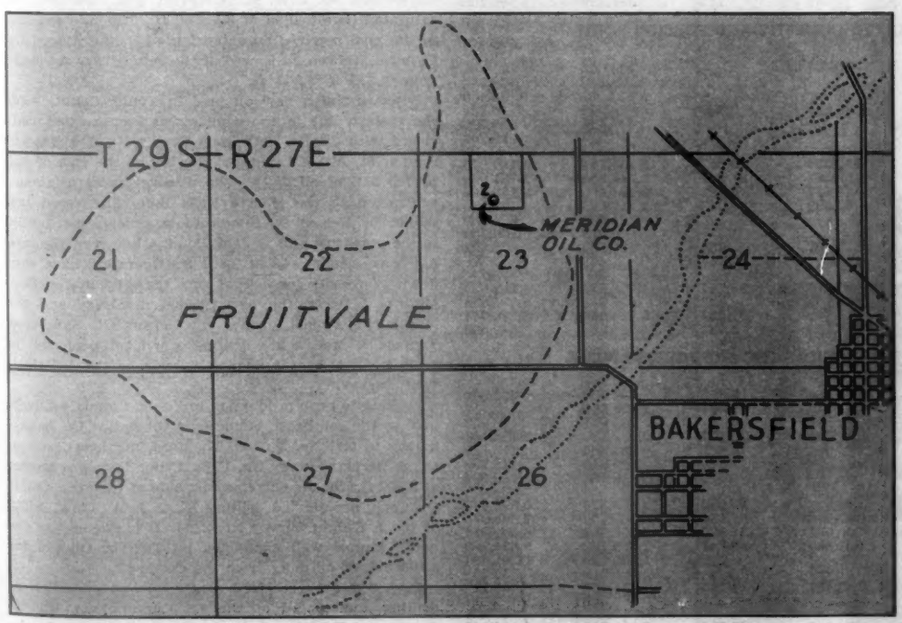
Five new wells were completed in the La Merced zone in the Montebello field of Los Angeles Basin during the week and 14 wells are below 7,500 ft. This entire group is expected to be tanking oil before the close of another 10 days. There is no indication yet that the peak of production is in sight although it is believed that it may be reached within a few weeks. All zones above the La Merced zone are definitely depleted and no longer offer enough inducement for operators to complete wells in those horizons, with the result that all incompleted drilling wells in the field are definitely headed for the La Merced zone. As soon as that zone begins to show concrete evidences of depletion, operators will head down to a zone of undetermined potentiality known to exist below the lower La Merced sand. New wells completed in the lower La Merced zone have not shown as high initials as heretofore, and this is usually the first sign that a zone is nearing the peak.

Union Oil Co., in the Montebello field, completed two new wells that showed an aggregate initial daily production of 1,435 bbl. of crude oil and 2,020,000 cu. ft. of gas. These new producers were No. 3 Calkins finished flowing 680 bbl. of 38.3-gravity oil and 1,000,000 cu. ft. of gas per day from the lower La Merced zone with bottom of the hole at 7,645 ft. No. 6 Howard of Union Oil Co. has been completed flowing 755 bbl. of clean 39.3-gravity oil and 1,020,000 cu. ft. of gas daily from the same zone with bottom of the hole at 7,625 ft.

Other Completions

Two of the new wells completed in the west end of the Montebello field were located south of Beverly Boulevard and both showed good production. These were No. 1 De Staute of Herley-Kelley, Inc., which was brought in flowing 725 bbl. of 36.3-gravity oil and 1,050,000 cu. ft. of gas per day from the lower La Merced zone with bottom of the hole at 7,631 ft., and No. 1 Beech of McVicar & Rood, flowing 705 bbl. of 36.4-gravity oil and 970,000 cu. ft. of gas daily from 7,640 ft. On the former well, the production department used a 1-in. and a 36/64-in. bean and on the latter a 1-in. and a 1½-in. bean was used. Both wells were subsequently beaned back in accordance with the gas allowance set by the Superior Court in accordance with previous procedure. These two wells are only about 100 ft. south of Beverly Boulevard near Maple Avenue. There are now 14 derricks standing south of Beverly Boulevard and most of them are strung out in a straight line from east to west. Three of these derricks are over producing wells, and some of the rest are nearing completion. In selecting locations operators have spotted wells as close to Beverly Boulevard as possible thus bringing them closer to the axis of the structure. A state law prevents operators from drilling within 100 ft. of a state boulevard and these derricks are just a little over 100 ft. from the highway.

Standard Oil Co., which has several productive properties in the west end of the area now undergoing development and which company has already completed 10 good wells, finished No. 7 Whitehead, flowing 415 bbl. of clean 36.9-gravity oil and 600,000 cu. ft. of gas per day from the lower La Merced zone with bottom of the hole at 7,680 ft. No. 6 Braun has been completed at 7,650 ft. and Standard's production crew should have it tanking oil soon as 541 ft. of 6⅝-in. liner has been run in the hole and cemented at 7,525 ft. J. E. Mabee Co., of Tulsa, has taken over No. 36 Monterey of Kern Oil Co. in the center of the field and will carry the well down into the lower La Merced zone at once. It will probably be several weeks before No. 1 Wilcox of Texas Co. reaches the depth at which production is expected. This well is the most westerly project in the field. It is a few hundred feet north of Beverly Boulevard, and in a direct line with the axis of the structure. The limits of production in the west end of Montebello have not yet been defined in any direction, as operators have proceeded with caution and consequently have not yet drilled a dry hole around the structure's edge. Known dips, how-



Location of No. 2 of Meridian Oil Co., a deep test in Fruitvale field of Kern County, California, in Section 23-29-27. The company is testing Vedder sand cored above 7,565 ft. If completed as a commercial producer this well will result in considerable new drilling due to relatively large number of small holdings

ever, indicate that the edge in certain directions is not very far from producing wells.

Wilmington

Only two wells were put on production in the Wilmington field of Los Angeles Basin during the week and for the first time in several weeks no tideland completions were among the list. Both of the wells finished were recompletions, after having been redrilled and deepened from the upper to the Ford zone. No. 1 Harbor of C. F. Dolley was returned to production flowing 190 bbl. of 27.8-gravity oil cutting 4 per cent from a depth of 5,718 ft. No. 9 Harbor of Wilton Oil Co. which was deepened from 3,583 ft. to 5,737 ft. was recompleted flowing 218 bbl. of clean 29.3-gravity oil daily through an 18/64-in. bean. Several wells are getting under way in the field but for the most part they are tideland wells which will be bottomed beneath the submerged acreage by directional drilling. For the first time since discovery of the Wilmington field, the number of active producing wells has exceeded 700 actually producing. With at least another 100 wells scheduled to be drilled provided the structure justifies this field may show more than 800 wells within the next several months. When development of the Ford zone gets under way it is possible that a minimum of 1,000 wells will be drilled in the Ranger, Terminal, and Ford zones. The Terminal zone in this field is still in a semiflush state and hence exploitation of the underlying Ford zone will undoubtedly be retarded at least until 1940. This zone has not proved especially productive in the town lot section of the field but is expected to prove highly productive in the Long Beach Harbor section.

Cole's Levee

Richfield Oil Corp. extended the productive limits of the Cole's Levee field of Kern County by completing No. 14-3-B Kern County Land in Section 3-31-25 flowing 630 bbl. of 35.3-gravity oil and 1,200,000 cu. ft. of gas per day from a depth of 9,688 ft. This well is the most northerly producer in the Cole's Levee field or if the Cole's Levee and Tupman fields are one large field, the well is in the center of the structure. It will take another well or two to determine whether the Cole's Levee and Tupman fields are one continuous structure or two separate fields. No. 21-1 Kern County Land, located northwest of the field in Section 19-30-25, appears to be a dud although the company is making arrangements to put it on the beam following the failure to develop flowing production. This well is bottomed at 9,977 ft. but has been plugged back to 9,880 ft. due to the presence of bottom water. The water shutoff is effected by a string of 7-in. landed at 9,170 ft. There are 10 strings of tools in operation at Cole's Levee.

Kettleman North Dome

In the Kettleman North Dome field Standard Oil Co. completed No. 85-17-Q in Section 17-22-18, flowing 1,840 bbl. of 38.2-gravity oil cutting 2 per cent and 1,750,000 cu. ft. of gas per day from the Temblor with bottom of the hole at 7,545 ft. and No. 63-21-Q in Section 21-22-18 flowing 1,235 bbl. of 38.4-gravity oil and 1,533,000 cu. ft. of gas daily from a depth of 8,190 ft. The former well was brought in flowing through a 56/64-in. bean behind a tubing pressure of 500 lb. and a casing pressure of 1,200 lb. and the latter well through a 40/64-in. bean back of a tubing pressure of 850 lb. and a casing pressure of 1,300 lb. The same operators completed the largest well listed during the week when No. 4-22-Q in Section 22-22-18 was finished flowing 2,690 bbl. of 34.1-gravity oil and 2,047,000 cu. ft. of gas per day from the Temblor with bottom of the hole at 8,060 ft.

San Joaquin Basin

Shell Oil Co. completed an excellent flowing well in the Ten Section field of Kern County when No. 78-20-B in Section 29-30-26 was brought in flowing 2,442 bbl. of 35.1-gravity oil and 2,294,000 cu. ft. of gas per day from the Stevens sand, with bottom of the hole at 8,215 ft. Top of the Stevens oil sand was cored at 7,983 ft. which indicates the well had approximately 229 ft. of productive formation from which to draw.

In the Dominion section of the Mount Poso field of Kern County Sunset Oil Co. completed No. 4 Bowles in Section 21-26-28 pumping 62 bbl. of 14.3-gravity oil cutting 1 per cent from 1,581 ft., while up in the Round Mountain field, Vedder Petroleum Co. completed No. 2 Bell in Section 12-28-28 pumping 196 bbl. of 14.2-gravity oil cutting 1.5 per cent daily from a depth of 1,815 ft. H. A. McDonald completed No. 2 Bell from a depth of 1,904 ft. but sand trouble developed and it was necessary to have the crew reenter the hole and clean out. It should be back on production within a few days.

Los Angeles Basin

Union Oil Co. completed No. 34 Rosecrans in the Rosecrans field of Los Angeles County, flowing 560 bbl. of 37.3-gravity oil and 750,000 cu. ft. of gas per day from the O'Dea zone at 7,871 ft. The area south of the Rosecrans field is still hot but its future will probably be determined within a few days when Barnsdall Oil Co. makes a production test on No. 1 Darling Community which this company is drilling for the joint account of itself and Wilshire Oil Co. This exploratory well is down 7,875 ft. in an oil sand that looks good. A total of 55 ft. of oil sand has been cored in the bottom of the hole, whereas the oil sand found higher up at 7,119-7,430 ft. consisted of 50 per cent oil sand and 50 per cent gray sand and shale. Acreage between the south end of the Rosecrans field to the northwest edge of the Dominguez field has been leased almost solid for several weeks and several additional tests will therefore be drilled in the near future.

West of the west end of the Dominguez field, California Western Oil Co. is making plans to drill a test to the Miocene which appears to be coming up again in the western end of Dominguez.

West Texas Fields

(Continued from Page 80)

ators last year which found a slight showing of oil in the Palo Pinto formation.

West edge of the Griffin pool received an outpost early in the week when Consolidated Oil Co. staked a western offset to the recently completed Ungren & Frazier's No. 4 Cox-Hamilton, a 3,400-bbl. well. Between the Steffens and the Sandy Ridge pool, and extending the former to the north, G. J. Scholl drilled saturation at 1,913-31 ft. on the C. C. Lenderman lands, Section 5. Petroleum Producers Co. is considering a test in the half-mile link area between the Lewis pool and the Steffens pool on the Rogers lands. It will be west of the Steffens pool and north of the Lewis pool.

Extensions on two sides of Shackelford County's Ivy pool were seen when the southwest edge test, Owen & Snebold's No. 5 Haterius, flowed 100 bbl. hourly after being drilled into the Palo Pinto lime, and bottomed at 3,190 ft. On the northwest edge of the pool Ambassador Oil Corp.'s No. 1 W. H. McKeever was flowing from saturated lime drilled at 3,142-60 ft. The western side of the pool received an extension when the Algord Oil Co.'s No. 5 Swenson flowed at the rate of 900 bbl. daily from 3,175 to 3,205 ft.

Discovery of a new oil pool in Young County near the eastern line of the county was seen as the week closed with Cosden Petroleum Corp.'s No. 1 Shanafelt, Section 11, A.B.&M. Survey, flowing at the rate of 400 to 500 bbl. of oil daily. The discovery was originally contracted to the Marble Falls lime, discovered last month by Nelson Oil Syndicate in a deep test 1 mile to the northeast and in Jack County, however, the new pay was encountered at 2,804 ft. Operators have shut down to prepare for drilling into the saturated section. Midway between the new Cosden discovery and the Marble Falls pool opener by Nelson Oil Syndicate, Taubert & McKee are drilling a wildcat projected to 4,400 ft. It is on the Shanefelt lands, in the J. Pointevant Survey.

Seeking to push production in Young County's Knight pool to the southeast, Homestead Oil & Gas Co. is preparing to test No. 2 G. C. Thedford, northeast part of the S. Barnett Survey No. 1580. Caddo lime was topped at 3,800 ft. On the extreme east side of the area, Caddo Oil Corp. has started drilling No. 1 J. W. Long, NE¼ of the J. Knight Survey No. 2204. It is due east of the pool's largest well completed by Tex-Tor Oil Co. for 4,100 bbl. of oil daily from the Caddo lime.

Parker County received a new wildcat operation as drilling commenced at the Ed Cunningham, Charlie Carter and Ed Wynn's No. 1 Dr. E. F. Yeager in the northeast corner of the John W. Helms Survey, 14 miles northwest of Weatherford, and the same distance northeast of Mineral Wells. It is contracted to 1,000 ft.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—	September 2 Total this week	September 2 Daily average	August 26 Total last week	August 26 Daily average	This year to date	Same time last year
Crude oil	.....	.....	65,464	9,352	641,059	633,300
Fuel oil	.....	.....	77,025	11,004	1,470,240	.....
Diesel and gas oil	.....	.....	.....	.....	163,501	.....
Gasoline	.....	.....	154,746	22,107	2,432,126	2,388,144
Kerosene	.....	.....	.....	.....	194,850	257,005
Foreign exports—						
Crude oil	274,537	39,220	423,974	60,568	10,660,160	16,408,075
Fuel oil	163,355	23,336	66,451	9,493	6,121,780	6,024,130
Diesel and gas oil	92,070	13,153	218,424	31,203	5,014,963	4,350,753
Gasoline	147,880	21,126	295,386	42,198	5,336,617	5,645,172
Kerosene	.....	.....	.....	.....	1,250,985	687,555
Lubricants	.....	.....	.....	.....	86,172	103,127
Coastwise-domestic—						
Crude oil	298,755	42,679	334,657	47,808	8,731,219	8,414,065
Fuel oil	277,606	39,658	339,447	48,492	6,697,812	7,293,685
Diesel and gas oil	42,124	6,018	60,267	8,610	1,554,454	1,084,557
Gasoline	236,145	33,735	319,195	45,599	10,968,254	10,286,388
Kerosene	18,916	2,702	5,008	715	311,399	168,263

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	124,055	.....
Diesel and gas oil	.....	.....	.....	.....	69,550	178,662
Gasoline	.....	.....	.....	.....	.....	25,409
Kerosene	.....	.....	68,954	9,851	68,954	16,124
Asphalt	72,679	10,383	.....	.....	425,845	418,700
Lubricants	.....	.....	.....	.....	19,534	16,905
Foreign exports—						
Crude oil	312,365	44,624	177,534	25,362	3,804,714	4,187,975
Fuel oil	18,955	2,708	153,587	21,941	2,040,955	1,781,935
Diesel and gas oil	214,679	30,668	47,477	6,782	2,037,605	2,158,561
Gasoline	16,170	2,310	42,299	6,043	2,118,545	4,189,116
Kerosene	.....	.....	.....	.....	384,804	574,139
Asphalt	.....	.....	.....	.....	6,919	56,258
Lubricants	2,946	421	5,497	785	426,832	352,592
Other finished oil	.....	.....	.....	.....	469	.....
Coastwise-domestic—						
Fuel oil	148,929	21,276	180,212	25,745	4,456,524	4,117,637
Diesel and gas oil	40,774	5,825	60,141	8,592	850,951	1,001,534
Gasoline	202,586	28,941	217,437	31,062	5,525,649	5,276,754
Kerosene	20,741	2,963	40,123	5,732	588,663	349,595

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Crude oil	.....	.....	65,464	9,352	641,059	633,300
Fuel oil	.....	.....	77,025	11,004	1,594,295	.....
Diesel and gas oil	.....	.....	.....	.....	233,051	178,662
Gasoline	.....	.....	154,746	22,107	2,432,126	2,413,553
Kerosene	.....	.....	68,954	9,851	263,804	273,129
Asphalt	72,679	10,383	.....	.....	425,845	418,700
Lubricants	.....	.....	.....	.....	19,534	16,905
Foreign exports—						
Crude oil	586,902	83,843	601,508	85,930	14,464,874	20,596,050
Fuel oil	182,310	26,044	220,038	31,434	8,162,735	7,806,065
Diesel and gas oil	306,749	43,821	265,901	37,986	7,052,568	6,509,314
Gasoline	164,050	23,436	337,685	48,241	7,455,162	9,834,288
Kerosene	.....	.....	.....	.....	1,635,789	1,261,694
Asphalt	.....	.....	.....	.....	6,919	56,258
Lubricants	2,946	421	5,497	785	513,004	455,719
Other finished oil	.....	.....	.....	.....	469	.....
Coastwise-domestic—						
Crude oil	298,755	42,679	334,657	47,808	8,731,219	8,414,065
Fuel oil	426,535	60,934	519,659	74,237	11,154,336	11,411,322
Diesel and gas oil	82,898	11,843	120,408	17,201	2,405,405	2,086,091
Gasoline	438,731	62,676	536,632	76,662	16,493,903	15,563,142
Kerosene	39,657	5,665	45,131	6,447	900,062	517,858

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., Sept. 9. — Crude and naphtha production from all Alberta fields in July totaled 877,005 bbl. compared with 798,170 bbl. in June. In Turner Valley, the output of limestone oil wells increased from 765,048 to 844,373 bbl., but naphtha production from limestone gas wells dropped from 5,645 to 4,857 bbl. Output of absorption plants, however, increased from 23,633 to 24,148 bbl. and shallow crude was up from 671 to 686 bbl. Red Coulee light crude increased from 1,094 to 1,120 bbl. and Wainwright heavy crude from 1,344 to 1,723 bbl. Shipments of light crude from the Moose dome were down from 180 to 98 bbl.; not output was recorded from the Dina-Ribstone area, which produced 300 bbl. in June, or from Steveville, which produced 255 bbl. in June.

Among Turner Valley crude producers, Anglo-Canadian Oil Co., with 4 wells, produced 38,559 bbl. while 12 wells of associated companies yielded 122,749 bbl., a total of 161,308 bbl. Four wells of Brown Oil Corp. yielded 35,308 bbl. and 9 associate wells 69,653 bbl., a total of 104,961 bbl. Sixteen Royalite Oil Co. and Sterling-Pacific wells yielded 143,528 bbl., with 23,423 bbl. from Northwest-Hudson Bay's No. 1, a total of 166,951 bbl. Some 37 independent wells produced 386,374 bbl. The largest individual producers were Home Oil Co.'s No. 2 Millarville, 30,142 bbl.; Vulcan-Brown's No. 1, 25,080 bbl.; Frontier Royalties' No. 1, 23,816 bbl.; Northwest-Hudson Bay's No. 1, 23,423 bbl.; Royalite Oil Co.'s No. 36, 23,353 bbl.; Royalite's No. 30, 23,223 bbl.; Royal Canadian's No. 2, 22,777 bbl. Among new completions in production the entire month, Anglo-Canadian's No. 1 produced 9,710 bbl.; British Colonial Oils' No. 1 produced 17,404 bbl.; Harris' No. 2 produced 18,125 bbl.; Oil Ventures' No. 1 12,759 bbl., and Okalta Oils' No. 8. 15,180 bbl. In production for part of July were Anglo-Canadian's No. 4, with 1,714 bbl.; Royalite's No. 39, with 1,533 bbl., and Royalite's No. 40, with 4,656 bbl.

British-American Oil Co.'s absorption plant yielded 7,180 bbl.; Gas & Oil Products, 5,569 bbl. and the two Royalite plants 4,420 and 6,979 bbl.

Turner Valley Completions

In Section 17-18-2w5, Extension Royalties' No. 2, LSD 11, finished at 8,254 ft. after drilling through 471 ft. of limestone, was treated with 3,000 gal. each in the upper and lower zone, followed by a further treatment of 12,000 gal. The natural flow, estimated around 900 bbl., jumped to 3,107 bbl. on a 24-hour test, and allowable is being determined by government officials. It is expected to rank among the largest producers in the field.

In the same section, Anglo-Canadian Oil Co.'s No. 6, LSD 3, finished at 8,228 ft. after getting the Madison at 7,797 ft. had a good initial production and is being acidized before making official test for allowable.

Consolidated Oils' No. 1, Section 20-18-2w5, an old producer, was reacidized, increasing its flow to 1,275 bbl. from the former production of 842 bbl.

Royalite Oil Co.'s No. 40, LSD 4, Section 5-19-2w5, finished at 7,828 ft., made 558 bbl. a day on official 1-in. choke test.

In Section 6-19-2w5, East Crest Oil Co.'s No. 4, LSD 8, finished at 8,040 ft.. gave 113 bbl. through 1-in. choke. In Section 5-19-2w5, Calwin Royalties' No. 1, LSD 1, finished at 7,257 ft., made 478 bbl. on official test. Winalta Royalties' No. 1, LSD 15, bottoming at 7,253 ft., made 770 bbl. and has been given 368-bbl. allowable.

In Section 17-18-2w5, Royalite Oil Co.'s No. 41, LSD 1, tested 1,508 bbl. through 1-in. choke. In Section 29-18-2w5, Royalite's No. 39, LSD 3, tested 1,440 bbl.

West Central Field

In Section 25-19-3w5, West Central Turner Valley, Argus Royalties' No. 1. LSD 14, is on top of the Dalhousie sand, below 6,609 ft., after getting the Home sand at 6,395 ft.

In Section 13-19-3w5, Arrow's No. 1. LSD 16, has secured drilling permit. Test is sponsored by Anglo-Canadian Oil Co. Sun Ray Petroleum Corp.'s No. 1, LSD 8, is in Belly River formation below 2,918 ft.

In Section 17-19-2w5, Anglo-Canadian Oil Co.'s No. 8, LSD 11, is in the upper Blairmore formation below 6,414 ft. after getting the grit beds at 5,930 ft.

In Section 6-19-2w5, East Crest Oil Co.'s No. 5, LSD 9, is rigging heavy-duty rotary outfit from Model-Spooner-Reward's No. 2. The test is being financed by East Crest Oil Co., Model Oils, Spooner Oils, A. H. Mayland interests and Snyder & Head, the latter firm handling the drilling. Kamalta Oils' No. 1, LSD 1, has finished cellar.

In Section 5-19-2w5, Royalite Oil Co.'s No. 45, LSD 14, is below 1,172 ft. Vanpeg Royalties' No. 1, LSD 9, is below 890 ft.

West Side Drilling

In Section 32-18-2w5, Vantage Oils' No. 1, LSD 12, has resumed from 1.628 ft. after several months' shutdown. Royalite Oil Co.'s No. 42, LSD 4, is in the lower Blairmore formation below 7,666 ft.

In Section 29-18-2w5, Royal Canadian Oil Co.'s No. 3, LSD 12, is in the lower Blairmore formation below 8,045 ft. and getting close to the limestone. Command Oils' No. 2, LSD 11, is below 3,769 ft.

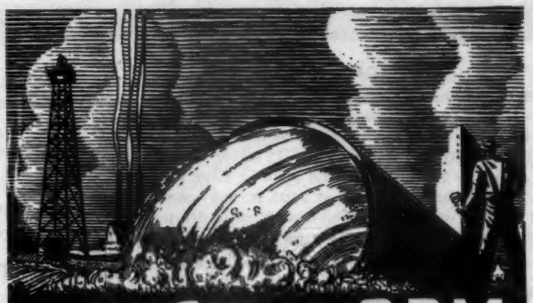
In Section 17-18-2w5, Royalite Oil Co.'s No. 46, LSD 2, is in the Belly River formation below 2,253 ft.

West of the main field, Anglo-Canadian Oil Co.'s No. 7, LSD 9, Section 31-18-2w5, is below 2,422 ft.

In the south end of the field, Brown Oil Corp.'s No. 6, LSD 15, Section 5-18-2w5, is standing at 4,517 ft. Theo Grewer's No. 1, LSD 14, same section, bottoming at 1,215 ft., is straightening.

In Section 8-18-2w5, Northwest-Hudson's Bay Co.'s No. 2, LSD 9, is below 3,089 ft.

(Continued on Page 100)



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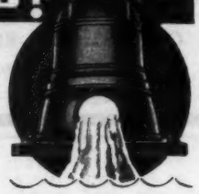

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East Texas Fields

(Continued from Page 87)

portion of the field was seen at the Humble Oil & Refining Co.'s No. 1 George Dailey, Sublett Survey. Test was being run on sand section logged from 5,855-65 ft., total depth. In the Houston County portion of the field Humble Oil & Refining Co. was moving in rig for its recently-staked No. 1 A. Pouncey, J. G. Thompson Survey.

Flag Lake Pool

Possibility of the extension of the Flag Lake Woodbine-sand pool of northwestern Henderson County across the river and into Navarro County was seen in Topaz Oil Co.'s No. 2 E. Trammel, A. C. Kyser Survey, 250 ft. from the Trinity River and on Flag Lake sand trend. It topped the Woodbine at 2,925 ft. and topped sand at 2,992 ft. which showed an odor of oil in drilling to a total depth of 3,000 ft. The operator was last reported preparing to run casing for a test of the section.

EAST TEXAS FIELD COMPLETIONS

(1-hour gages)

Gregg County—Longview Area

Magnolia Petroleum Co.'s No. 16 C. Davis, 3,573-82 ft., 80 bbl.

Gregg County—Kilgore Area

O. R. Cooper's No. 5 A. Compton, 3,518-31 ft., 35 bbl.

J. J. Jenkins, Inc.'s No. 1 Strand Theater, 3,542-81 ft., 60 bbl. Potter Brothers' No. 3 F. Banterelle, 3,540-80 ft., 60 bbl. C. R. Starnes' No. 31 A. Money, 3,606-10 ft., 60 bbl. C. R. Starnes' No. 36 A. Money, 3,580-87 ft., 60 bbl. C. R. Starnes' No. 38 A. Money, junked and abandoned at total depth of 3,582 ft.: John Wrather's No. 17-A I.&G.N. R.R., 3,537-55 ft., 40 bbl.

Rusk County—Kilgore Area

General American Oil Co.'s No. 2-A Sam Williams, 3,621-26 ft., 40 bbl.

Rusk County—Joiner Area

M. A. Kline's No. 2 Maxwell, 3,749-62 ft., 30 bbl. Magnolia Petroleum Co.'s No. 11 C. D. Ashley, 3,615-38 ft., 20 bbl.

Upshur County—Longview Area

B. Manzill's No. 10 C. B. Mackey, 3,725-27 ft., 6 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Franklin County

In the Talco field Humble Oil & Refining Co.'s No. 9 Penn fee, N. Dembriski Survey, 4,188-4,280 ft., 219 bbl. on pump.

Anderson County

In the Long Lake field F.H.E. Oil Co.'s No. 1 First National Bank, J. Madden Survey, 5,345-46 ft., 71 bbl. through 6/64-in. choke. Tide Water Associated Oil Co. and Seaboard Oil Corp.'s No. 14 Shaw & Cern, D. Parker Survey, 5,247-5,341 ft., 115,000,000 cu. ft. of gas (to be used as injection well).

Grayson County

A wildcat test, John Grey's No. 1 Freeman, W. S. Reeves Survey, 8 miles northwest of Denison, dry and abandoned after testing salt water in sand topped at 1,381 ft. and drilled to 1,407 ft., total depth. A wildcat test, Ross & Marshall's No. 1 Taylor, W. Moore Survey, northwest of Denison, dry and abandoned at total depth of 918 ft.

Smith County

A wildcat test, D. L. Ross and others' No. 1 Rushing, J. Herrin Survey, 1 mile east of Whitehouse, abandoned location.

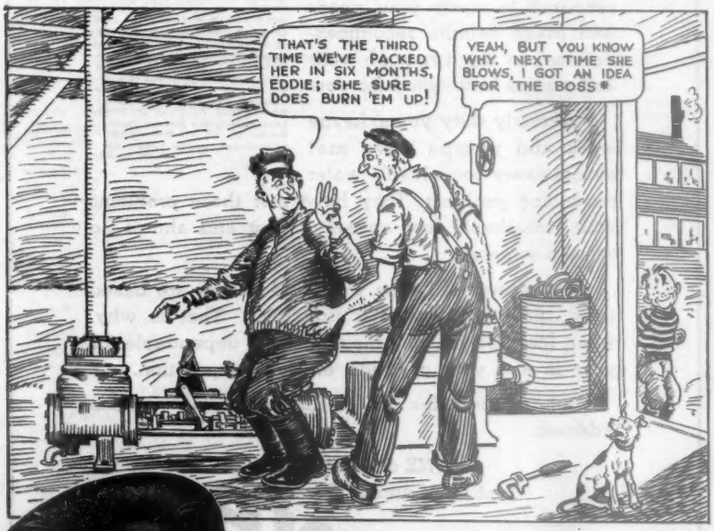
Titus County

In the Talco field, Humble Oil & Refining Co.'s No. 2 Phillips, George Dyer Survey, 4,330-50 ft., 328.73 bbl. Humble Oil & Refining Co.'s No. 3 Temple, J. F. Lund Survey, 4,238-4,339 ft., 136 bbl., pumping.

Van Zandt County

In the shallow area of the Van field Cantrell's No. 2 Coker, William Daniel Survey, topped sand at 1,290 ft. and drilled to 1,312 ft. Made 12 bbl. of oil on an 8-hour pumping test.

KEEPING 'EM ROLLING . . . . By WESTCOTT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Canadian Fields

(Continued from Page 99)

North Turner Valley

In Section 22-20-3w5, North Turner Valley, Royalite Oil Co.'s No. 43, LSD 2. is in the upper Blairmore formation below 6,173 ft.

In Section 28-20-3w5, Home Oil Co.'s No. 4, LSD 9, is in the Benton formation below 3,437 ft.

In Section 33-20-3w5, Home's No. 3, LSD 1, is below 2,629 ft.

In the Waite Valley area National Petroleum Corp.'s No. 3, LSD 4, Section 25-20-4w5, is in the lower Benton formation below 3,072 ft., and logging satisfactorily.

Pouce Coupe Test

On the Pouce Coupe structure, in the northern foothills west of Peace River, Benedum & Trees' No. 1 Guardian, Section 7-80-12w6, got the limestone at a reported depth of 4,785 ft. and has taken a 20-ft. saturated core from that formation. Casing is being set in the lime and production test will probably be made before deepening into that formation. Several good shows of oil and gas were reported in formations above the lime.

Alberta Oil Production

Production of oil in Alberta for the 7 months of 1939 totaled 4,131,274 bbl. compared with 3,507,613 bbl. in the same period last year, an increase of 623,661 bbl.

Figures issued by the Alberta Petroleum Association estimate the value of the crude and naphtha output of Turner Valley at the end of 1938 at $46,237,000 with $13,218,000 for natural gas. Of 310 wells drilled in Turner Valley since 1914, some 105 were definite producers of wet gas and 83 crude-oil wells.

Thorough Tests Demanded

Thorough tests of all potential oil and gas horizons encountered in drilling are now required under a new order of the Alberta Conservation Board. The order states that, immediately on encountering a formation from which petroleum or natural gas production may be anticipated, the operator shall core and adequately test such formation. Information thus obtained shall be forwarded to the board as expeditiously as possible, and no further drilling conducted till ordered by the board. The board requires also definite drill-stem tests of the upper porous limestone before deepening, and that in addition a 10-ft. core must be taken from each productive zone for delivery to and study by the board's experts.

Ontario Drilling

In the Tilbury field, Kent County, Ontario, Union Gas Co.'s No. 312, Lot 170, Talbot Road North, Tilbury East Township, finished a small gasser at around 1,450 ft. Union's No. 311, Lot 11, Concession 14, which some time ago got small oil and gas shows at 1,447 ft., is being abandoned after acidizing failed to increase production.

In Chatham Township, Kent County, Union Gas Co.'s No. 20, Lot 13, Concession 10, is below 1,863 ft. with a small showing of gas.

In the Dover field, Kent County, George Rawlings of Chatham is starting a deep test on the Johnson farm, Dover Township.

In Harwich Township, Kent County, H. Snell and associates of Commerce, Mich., are drilling on the H. English farm, 2 miles south of Chatham. Steel derrick is being used with cable tools, and tests possibly will be carried to the Trenton limestone. Harvey Stubble is handling the contract.

In the Malahide field, Elgin County, Union Gas Co.'s No. 14, Lot 9, Concession 4, Malahide Township, encountered a gas flow with some water below 1,076 ft. but was abandoned at 1,100 ft. Union's No. 16, Lot 15, Concession 5, finished at 1,083 ft. as a good producer, with no water. Union's No. 17, Lot 10, Concession 4, has spudded. Union's No. 8, Lot 24, Concession 5, is below 950 ft. Union's No. 19, Lot 14, Concession 4, is spudding. Union's No. 20, Lot 8, Concession 4, is spudding as a test of a possible westerly extension of the field.

In Southwold Township, Union's No. 3 Delaware, Lot 20, Concession 2 finished a dry hole below 1,500 ft.

In Enniskillen Township, Lambton County, Volcanic Gas & Oil Co.'s No. 1, Lot 15, Concession 1, is drilling.

In Raleigh Township, Kent County, George Rawlings is starting a test for a Detroit syndicate on the Mrs. Pardo farm, South Talbot Road, in the east end of the De Clute field.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
Union Oil, No. 21 Squires, Santa Maria, Santa Barb.	26- 9-34	2,961	sd. sh. drlg.
Union Oil, No. 19 Newlove, Santa Maria, Santa Barb.	24- 9-34	3,325	will deepen
Sun-Bell Oil, No. 1 Sun, Lompoc, Santa Barbara	29- 8-34	3,196	sd. sh. drlg.
Cole, F. E., No. 19 S.M., Santa Maria, Santa Barbara	29-10-34	5,434	flow 4,500 b.d.
Petrol Corp., No. 5-21 Magenheimer, Gato R., Santa B.	9- 8-32	3,705	hd. sh. drlg.
Richfield Oil, No. 3 Marcos, Sisquoc, Santa Barbara	29- 6-29	1,291	sd. sh. drlg.
Sunset Oil, No. 1 Shore, Carpinteria, Santa Barbara	32- 4-25	2,435	cleaning out
Coronet Oil, No. 1 Crown, Ojai, Ventura	17- 4-21	2,298	pump water
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	2,161	sd. sh. drlg.
Section 20 Oil, No. 21, Sespe, Ventura	20- 5-19	4,070	sd. sh. drlg.
Renard Oil, No. 1, Sespe, Ventura	6- 4-19	298	sd. sh. drlg.
Speik Oil, No. 2 Hill, Sespe, Ventura	33- 5-19	3,966	cleaning out
Galveston Oil, No. 1 Basola, Bardsdale, Ventura	5- 3-19	3,139	liner bad
K. C. Oil, No. 1 Marr, Santa Susana, Ventura	32- 3-17	813	sd. sh. drlg.
Bolsa Chica Oil, No. 5 Snow, Piru, Ventura	4- 4-18	2,560	sd. sh. drlg.
Continental Oil, No. 12 Grubb, San Miguelito, Ventura	24- 3-24	3,672	sd. sh. drlg.
C. C. M. Oil, No. 5 W.O.G., Padre Canyon, Ventura	23- 3-24	4,710	sd. sh. drlg.
C. C. M. Oil, No. 29-B Hobson, Rincon, Ventura	16- 3-24	2,268	sd. sh. drlg.
Tide Water A. O., No. 40 V.L.W., Ventura Ave., Vent.	25- 3-23	10,670	cleaning out
Tide Water A. O., No. 42 V.L.W., Ventura Ave., Vent.	23- 3-23	6,360	sd. sh. drlg.
Tide Water A. O., No. 44 V.L.W., Ventura Ave., Vent.	23- 3-23	5,762	sd. sh. drlg.
Tide Water A. O., No. 15 McGonigle, Ventura A., Vent.	23- 3-23	7,190	sd. sh. drlg.
Tide Water A. O., No. 16 McGonigle, Ventura A., Vent.	23- 3-23	4,461	sd. sh. drlg.
Tide Water A. O., No. 66 Lloyd, Ventura A., Vent.	26- 3-23	5,110	will deepen
Tide Water A. O., No. 121 Lloyd, Ventura A., Vent.	23- 3-23	6,183	sd. sh. drlg.
Tide Water A. O., No. 123 Lloyd, Ventura A., Vent.	23- 3-23	9,065	completing
Tide Water A. O., No. 21 Hartman, Ventura A., Vent.	22- 3-23	804	sd. sh. drlg.
Shell Oil, No. 102 Taylor, Ventura Ave., Ventura	29- 3-23	5,250	sd. sh. drlg.
Shell Oil, No. 34 Edison, Ventura Ave., Ventura	21- 3-23	8,065	O.S. drlg.
General Pet., No. 16 Barnard, Ventura A., Ventura	28- 3-23	7,958	sd. sh. drlg.
Cal. Alliance Pet., No. 1 Hartman, Ventura A., Vent.	22- 3-23	4,780	sd. sh. drlg.
Brit. Amer. Pet., No. 8 Hartman, Ventura A., Vent.	21- 3-23	8,521	O.S. drlg.
Lloyd Corp., No. 3 Dabney, Ventura A., Ventura	23- 3-23	7,530	sd. sh. drlg.
Lloyd Corp., No. 4 Dabney, Ventura Ave., Ventura	23- 3-23	6,654	sd. sh. drlg.
Belridge Oil, No. 1-27, North Belridge, Kern	1-28-20	2,161	sd. sh. drlg.
Belridge Oil, No. 26-39, North Belridge, Kern	26-27-20	8,275	redrlg. 6,471
Tide Water A. O., No. 24, North Belridge, Kern	21-27-20	5,396	sd. sh. drlg.
O'Reily, Frances, No. 2 Seale, Edison, Kern	5-30-29	3,197	sd. sh. drlg.
Petrex, Inc., No. 2 Metro, Edison, Kern	6-30-29	3,794	sd. sh. drlg.
Marcan Oil, No. 4 Kelley, Round Mountain, Kern	12-28-28	1,809	pump 88 b.d.
McDonald, H. A., No. 2 Bell, Round Mountain, Kern	12-28-28	1,904	pump 95 b.d.
Vedder Pet., No. 2 Bell, Round Mountain, Kern	12-28-28	1,815	pump 190 b.d.
Kern Valley Drlg., No. 1 Bender, Round Mount., Kern	4-29-29	1,720	gr. sd. drlg.
Dick, W. T., No. 2 Kern, Kern River, Kern	34-28-28	659	pump 10 b.d.
Dick, W. T., No. 4 Kern, ern River, Kern	34-28-28	197	sd. sh. drlg.
Dick, W. T., No. 5 Kern, Kern River, Kern	34-28-28	184	sd. sh. drlg.
D. B. K. Co., No. 7 Kern, Kern River, Kern	34-28-28	375	O.S. drlg.
Sunset Oil, No. 4 Bowles, Mount Poso, Kern	21-26-28	1,581	rig to pump
Hill & Associates, No. 1 West, Mount Poso, Kern	35-26-28	645	fish D.P.
Dilamar Oil, No. 3 Quinn, Jasmin, Kern	12-25-27	2,902	rig to pump
Hogan Pet., No. 4 Peters, Mountain View, Kern	5-31-29	5,588	coring
Texas Co., No. 2 Jewett, Arvin, Kern	16-31-29	7,750	P.B. 6,950
Standard Oil, No. 5 Jewett, Arvin, Kern	16-31-29	1,022	sd. sh. drlg.
Western Gulf Oil, No. 43-B KCL, Fruitvale, Kern	22-29-27	3,720	O.S. drlg.
Meridian Pet., No. 2 Deep Test, Fruitvale, Kern	23-29-27	7,570	test W.S.O.
Getty, George F., No. 1 Jannsen, Wasco, Kern	7-27-24	13,131	flow 1,960 b.d.
Union Oil, No. 4-23 Bowerbank, Goose Lake, Kern	23-29-24	245	sd. sh. drlg.
Union Oil, No. 41-34, KCL, Rio Bravo, Kern	34-28-25	6,170	sd. sh. drlg.
Superior Oil, No. 1 Burner, Rio Bravo, Kern	27-28-25	11,226	O.S. drlg.
Standard Oil, No. 1 Ross, Greeley, Kern	20-29-26	10,440	fish D.P.
Standard Oil, No. 11-18, KCL, Greeley, Kern	18-29-26	11,495	O.S. drlg.
Standard Oil, No. 11-19, KCL, Greeley, Kern	18-29-26	11,495	flow 3,696 b.d.
Standard Oil, No. 11-20, KCL, Greeley, Kern	18-29-26	4,274	sd. sh. drlg.
Standard Oil, No. 12-5, KCL, Northwest Greeley, Kern	7-29-26	8,290	sd. sh. drlg.
General Pet., No. 1 Sullivan, Northeast Greeley, Kern	12-29-26	9,458	hd. sd. drlg.
Continental Oil, No. 2-D, KCL, Bellevue, Kern	14-30-26	12,801	hd. sh. drlg.
Shell Oil, No. 78-20-B, KCL, Ten Section, Kern	20-30-26	8,215	flow 2,453 b.d.
Tide Water A. O., No. 46-7-E, KCL, Strand, Kern	7-30-26	914	sd. sh. drlg.
Shell-Ohio, No. 84-12-A, KCL, Strand, Kern	12-30-25	8,325	gr. sd. drlg.
Ohio Oil, No. 14-E, KCL, Canal, Kern	14-30-25	8,110	sd. sh. drlg.
Shell Oil, No. 32-14-A, KCL, Canal, Kern	14-30-25	7,796	sd. sh. drlg.
Richfield Oil, No. 12-33-A, KCL, Tupman, Kern	33-30-25	9,238	sd. sh. drlg.
Standard Oil, No. 21-1, KCL, Tupman, Kern	19-30-25	9,880	rig to pump
Richfield Oil, No. 14-3-B, KCL, Cole's Levee, Kern	3-31-25	9,695	completing
Richfield Oil, No. 67-4-B, KCL, Cole's Levee, Kern	4-31-25	7,698	sd. sh. drlg.
Standard Oil, No. 20-2, KCL, Cole's Levee, Kern	9-31-25	6,292	sd. sh. drlg.
Standard Oil, No. 20-3, KCL, Cole's Levee, Kern	9-31-25	3,984	sd. sh. drlg.
Standard Oil, No. 20-4, KCL, Cole's Levee, Kern	9-31-25	1,775	sd. sh. drlg.
Ohio Oil, No. 4-F, KCL, Cole's Levee, Kern	11-31-25	5,371	redrlg. 4,030
Tide Water A. O., No. 81, KCL, Cole's Levee, Kern	14-31-25	9,715	sd. sh. drlg.
Union Oil, No. 58-11, KCL, Cole's Levee, Kern	11-31-25	4,787	sd. sh. drlg.
Gibson Oil, No. 6 O'Brien, Midway-Sunset, Kern	6-11-23	2,940	swab water
C. C. M. Oil, No. 12-6 fee, Midway-Sunset, Kern	6-32-23	2,130	deepening
Baker & Sonne, No. 1 Leyse, Midway-Sunset, Kern	20-32-23	1,170	sd. sh. drlg.
Quality Oil, No. 6 W.P., Midway-Sunset, Kern	27-32-23	1,975	cleaning out
Texas Co., No. 34 Sunset, Midway-Sunset, Kern	32-32-24	3,268	tested wet
Texas Co., No. 35 Sunset, Midway-Sunset, Kern	32-32-24	1,292	sd. sh. drlg.
Merritt-Annex Oil, No. 8 Fried, Midway-Sunset, Kern	25-12-24	1,074	sd. sh. drlg.
General Pet., No. 1 B.V.A., Midway-Sunset, Kern	1-31-24	8,660	sd. sh. drlg.
National Oil, No. 33 Sunset, Midway-Sunset, Kern	35-32-23	2,409	C.P. 1,834
Standard Oil, No. 3-5-C fee, Midway-Sunset, Kern	5-32-23	2,400	redrlg. 2,362
Western Gulf Oil, No. 1 Panhandle, Buena V. L., Kern	3-32-26	10,178	flow 2,240 b.d.
Richfield Oil, No. 1 KCL, Wheeler Ridge, Kern	28-11-20	11,168	sd. sh. drlg.
Continental Oil, No. 1-F, KCL, San Emidio, Kern	5-10-21	8,096	hd. sh. drlg.
Bannow, L. E., No. 1 Irwin, San Emidio, Kern	15-10-23	2,040	cleaning out
Shell Oil, No. 52-2-13-A, KCL, San Emidio, Kern	13-11-22	10,348	cmtd. 10,297
French, R. C., No. 1 Royal, San Emidio, Kern	5-10-21	718	gr. sd. drlg.
Richfield Oil, No. 1 Gulf, Cantua, Fresno	4-17-15	8,453	O.S. drlg.
Italo Pet., No. 5 Penn, West Coalinga, Fresno	1-20-14	1,220	sanded up
Wilcox, J. F., No. 7 Coalinga, West Coalinga, Fresno	11-20-14	490	sd. sh. drlg.
Union Oil, No. 86-18 Cook, Northeast Coalinga, Fresno	18-19-16	8,240	flow 590 b.d.
Bandini Pet., No. 48-18 Webb, NE Coalinga, Fresno	18-19-16	8,093	fish D.P.
Standard Oil, No. 73-19-B fee, NE Coalinga, Fresno	19-19-16	7,985	O.S. drlg.
Amerada Pet., No. 5-17 S.P.L., NE Coalinga, Fresno	17-19-16	7,250	sd. sh. drlg.
Wilshire Annex Oil, No. 1 Kearns, C Coalinga, Fresno	30-19-16	6,993	sd. sh. drlg.
Lytle, R. S., Agent, No. 42-7-F, SE Coalinga, Fresno	7-20-16	3,992	sd. sh. drlg.
Lytle, R. S., Agent, No. 86-7-F, SE Coalinga, Fresno	7-20-16	7,760	sd. sh. drlg.
Lytle, R. S., Agent, No. 7-18-F, SE Coalinga, Fresno	18-20-16	7,732	flow 2,026 b.d
Texas Co., No. 3 Exeter fee, SE Coalinga, Fresno	6-20-16	3,984	sd. sh. drlg.
Standard Oil, No. 62-13-C fee, SE Coalinga, Fresno	13-20-15	5,286	sd. sh. drlg.
Standard Oil, No. 86-13-C fee, SE Coalinga, Fresno	13-20-15	6,590	sd. sh. drlg.
Superior Oil, No. 5 fee, SE Coalinga, Fresno	7-20-16	5,980	sd. sh. drlg.
Superior Oil, No. 3 Cagle, SE Coalinga, Fresno	6-20-16	6,187	sd. sh. drlg.
Parkford, E. A., No. 1 Valley, SE Coalinga, Fresno	24-20-15	6,798	hd. sh. drlg.
K. N. D. A., No. 54-20-Q, Kettleman North, Kings	29-22-18	7,430	sd. sh. drlg.
K. N. D. A., No. 4-22-Q, Kettleman North, Kings	22-22-18	8,060	flow 2,700 b.d.
K. N. D. A., No. 25-22-Q, Kettleman North, Kings	22-22-18	4,985	sd. sh. drlg.
K. N. D. A., No. 47-22-Q, Kettleman North, Kings	22-22-18	7,659	O.S. drlg.
K. N. D. A., No. 25-26-Q, Kettleman North, Kings	26-22-18	6,472	br. sh. drlg.
K. N. D. A., No. 41-28-Q, Kettleman North, Kings	28-22-18	3,783	sd. sh. drlg.
Standard Oil, No. 2-19-J, Kettleman North, Fresno	19-21-17	9,680	sd. sh. drlg.
Standard Oil, No. 27-19-J, Kettleman North, Fresno	19-21-17	8,840	P.B. 8,149
Standard Oil, No. 27-7-Q, Kettleman North, Kings	7-22-18	7,360	sd. sh. drlg.
Standard Oil, No. 43-7-Q, Kettleman North, Kings	7-22-18	5,972	sd. sh. drlg.
Standard Oil, No. 63-17-Q, Kettleman North, Kings	17-22-18	7,930	sd. sh. drlg.
Standard Oil, No. 85-17-Q, Kettleman North, Kings	17-22-18	7,545	flow 1,840 b.d.
Standard Oil, No. 85-21-Q, Kettleman North, Kings	21-22-18	5,566	sd. sh. drlg.
Standard Oil, No. 61-27-Q, Kettleman North, Kings	27-22-18	6,990	br. sh. drlg.
Graphic Oil, No. 1 Taylor, Dudley Ridge, Kings	34-23-20	4,096	sd. sh. drlg.
Newton, S. M., No. 1 Stafford, Panorama, San Luis O.	18-31-21	3,994	hd. sh. drlg.
Epco, Inc., No. 1 Epco, San Miguel, San Luis Obispo	27-25-13	5,954	will deepen
Cal. Expl., No. 1 Irons, Cuyama, San Luis Obispo	19-10-24	2,440	sd. sh. drlg.
Standard Oil, No. 1 Corcoran, Fairfield Knowles, Yolo	29- 9- 1	2,473	sd. sh. drlg.
Texas Co., No. 3 Eureka, Eureka, Humbolt	21- 3- 1	4,397	sd. sh. drlg.
Silver Creek Oil, No. 1 Los Pinos, San Benito	11-17-11	255	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem
D.S.T., drill-stem test
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting for orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
O'Donnell, J. E., No. 73 Lomita, Torrance, Los Ang.	30- 4-13	5,259	recmtd. 5,077
Union Oil, No. 12 Carson, Dominguez, Los Angeles	33- 3-13	7,370	sd. sh. drig.
Union Oil, No. 71 Callender, Dominguez, Los Angeles	32- 3-13	3,684	sd. sh. drig.
Union Oil, No. 72 Callender, Dominguez, Los Angeles	32- 3-13	1,080	sd. sh. drig.
Shell Oil, No. 33-A Reyes, Dominguez, Los Angeles	34- 3-13	4,265	sd. sh. drig.
Union Oil, No. 34 Rosecrans, Rosecrans, Los Angeles	19- 3-13	7,871	swabbing
Barnsdall Oil, No. 1 Darling, Rosecrans, Los Angeles	20- 3-13	7,870	sd. sh. drig.
King & Weymouth, No. 3 Averill, Rosecrans, Los A.	20- 3-13	6,783	sd. sh. drig.
South. Cal. Pet., No. 1 Slabaugh, Rosecrans, L. A.	19- 3-13	6,890	D.P. stuck
Basin Oil, No. 1 Beloil, Potrero, Los Angeles	28- 2-14	5,450	redrlg. 5,297
Basin Oil, No. 5 Basin, Potrero, Los Angeles	34- 2-14	1,171	sd. sh. drig.
Vulcan Oil, No. 1 Corner, Playa Del Rey, Los Angeles	22- 2-15	6,580	sd. sh. drig.
Tide Water A. O., No. 12 Porter, Aliso Canyon, L. A.	27- 3-16	955	sd. sh. drig.
Tide Water A. O., No. 11 Fernando, Aliso Can., L. A.	27- 3-16	1,990	hd. sd. drig.
Redwood Oil, No. 1-A Mitchell, Mint Canyon, L. A.	22- 4-15	130	sd. sh. drig.
Barnsdall Oil, No. 6 R.S.F., Newhall, Los Angeles...	27- 4-17	6,550	cleaning out
General Pet., No. 13 S.P., Wilmington, Los Angeles	2- 5-13	2,590	sd. sh. drig.
Brookline Oil, No. 5 Harbor, Wilmington, Los Ang.	4- 5-13	3,496	O.S. drig.
Dolley, C. F., No. 1 Harbor, Wilmington, Los Ang.	35- 4-13	5,718	flow 180 b.d.
Gremac Oil, No. 2 Harbor, Wilmington, Los Angeles	4- 5-13	3,820	P.B. 3,709
Interstate Inv., No. 3-2 Channel, Wilmington, Los A.	35- 4-13	2,992	sd. sh. drig.
Hancock Oil, No. 23-A Harbor, Wilmington, Los Ang.	2- 5-13	4,055	tested wet
Long Beach Dev., No. 10-Y Harbor, Wilmington, L. A.	2- 5-13	2,080	sd. sh. drig.
Long Beach Dev., No. 11-Y Harbor, Wilmington, L. A.	2- 5-13	2,141	sd. sh. drig.
Long Beach Dev., No. 11-X Harbor, Wilmington, L. A.	2- 5-13	2,353	sd. sh. drig.
Long Beach Dev., No. 6-Z Harbor, Wilmington, L. A.	2- 5-13	2,893	sd. sh. drig.
Long Beach Dev., No. 7-Z Harbor, Wilmington, L. A.	2- 5-13	2,161	sd. sh. drig.
L. A. Basin Drlg., No. 1 Kupfer, Wilmington, Los A.	35- 4-13	3,586	completing
Morgan, Roy, No. 1 Harbor, Wilmington, Los Ang.	35- 4-13	1,770	sd. sh. drig.
Royalty Service, No. 3 Packard, Wilmington, Los A.	33- 4-13	4,898	sd. sh. drig.
Royalty Service., No. 1 Fleming, Wilmington, Los A.	33- 4-13	3,634	will deepen
Royalty Service, No. 1-B Santa Fe, Wilmington, L. A.	33- 4-13	5,713	flow 410 b.d.
Royalty Service, No. 2-B Santa Fe, Wilmington, L. A.	33- 4-13	3,606	will deepen
Signal O. & G., No. 3-S.P., Wilmington, Los Angeles	3- 5-13	2,990	sd. sh. drig.
Union Pacific R. R., No. 113, Wilmington, Los Ang.	34- 4-13	3,701	P.B. 3,633
Union Pacific R. R., No. 114, Wilmington, Los Ang.	10- 5-13	3,945	tested wet
Union Pacific R. R., No. 115, Wilmington, Los Ang.	3- 5-13	3,833	completing
Union Pacific R. R., No. 116, Wilmington, Los Ang.	3- 5-13	4,068	O.S. drig.
Wilton Oil, No. 9 Harbor, Wilmington, Los Angeles	32- 4-13	5,737	flow 215 b.d.
Kern Oil, No. 24 Monterey, Montebello, Los Angeles	2- 2-12	7,460	sd. sh. drig.
Kern Oil, No. 28 Monterey, Montebello, Los Angeles	2- 2-12	6,731	will deepen
Kern Oil, No. 32 Monterey, Montebello, Los Angeles	2- 2-12	6,775	cleaning out
Kern Oil, No. 3 Taylor, Montebello, Los Angeles ..	2- 2-12	7,767	O.S. drig.
Standard Oil, No. 6 Braun, Montebello, Los Angeles	3- 2-12	7,650	O.S. drig.
Standard Oil, No. 7 Braun, Montebello, Los Angeles	2- 2-12	7,395	sd. sh. drig.
Standard Oil, No. 8 Braun, Montebello, Los Angeles	3- 2-12	7,390	sd. sh. drig.
Standard Oil, No. 7 Whitehead, Montebello, Los Ang.	3- 2-12	7,680	completing
Standard Oil, No. 8 Whitehead, Montebello, Los Ang.	3- 2-12	7,540	sd. sh. drig.
Union Oil, No. 5 Wilcox, Montebello, Los Angeles..	11- 2-12	7,470	O.S. drig.
Union Oil, No. 7 Wilcox, Montebello, Los Angeles..	11- 2-12	4,570	sd. sh. drig.
Union Oil, No. 7 Howard & Smith, Montebello, L. A.	11- 2-12	7,610	O.S. drig.
Union Oil, No. 8 Howard & Smith, Montebello, L. A.	11- 2-12	7,470	O.S. drig.
Union Oil, No. 3 Calkins, Montebello, Los Angeles..	2- 2-12	7,645	completing
Union Oil, No. 6 Paul Howard, Montebello, Los A.	11- 2-12	7,420	completing
Albertson Oil, No. 1 Schnakenburg, Montebello, L. A.	3- 2-12	4,894	sd. sh. drig.
Graham-Loftus Oil, No. 1 South, Montebello, Los A.	11- 2-12	7,638	completing
Dutch Oil, No. 1 Scheinik, Montebello, Los Angeles	3- 2-12	2,686	sd. sh. drig.
B-A Prod., No. 1 Parmalee, Montebello, Los Angeles	11- 2-12	7,530	O.S. drig.
B-A Oil Prod., No. 1 H. & S., Montebello, Los Angeles	11- 2-12	6,870	sd. sh. drig.
B-A Oil Prod., No. 2 H. & S., Montebello, Los Angeles	11- 2-12	5,681	sd. sh. drig.
B-A Oil Prod., No. 1 Ryder, Montebello, Los Angeles	11- 2-12	4,842	sd. sh. drig.
C. A. P. Oil, No. 1 Dutch, Montebello, Los Angeles ..	11- 2-12	4,500	redrlg. 3,840
Hathaway Oil, No. 2 Dore, Montebello, Los Angeles	11- 2-12	6,605	sd. sh. drig.
McVicar & Rood, No. 1 Beech, Montebello, Los Ang.	11- 2-12	7,640	flow 680 b.d.
McVicar & Rood, No. 1 Matson, Montebello, Los Ang.	11- 2-12	7,538	O.S. drig.
McVicar & Rood, No. 4 Manz, Montebello, Los Ang.	2- 2-12	6,473	sd. sh. drig.
McKeon, John, No. 1 Travis, Montebello, Los Angeles	11- 2-12	4,585	sd. sh. drig.
Mono Oil, No. 1 Foreman, Montebello, Los Angeles	2- 2-12	1,892	sd. sh. drig.
Mission Oil, No. 1 Marcotte, Montebello, Los Angeles	11- 2-12	7,550	O.S. drig.
Pacific-Amer. Oil, No. 1 Groen, Montebello, Los A.	11- 2-12	1,961	sd. sh. drig.
Pueblo Oil, No. 1 Bird, Montebello, Los Angeles ..	11- 2-12	7,554	O.S. drig.
Pongratz Pet., No. 2 Newmark, Montebello, Los A.	3- 2-12	2,294	sd. sh. drig.
Montebello Res. Oil, No. 1 Reservoir, Montbello, L. A.	2- 2-12	7,360	fish D.P.
Mont. Oil, No. 1 Nordon, Montebello, Los Angeles ..	3- 2-12	1,940	cleaning out
Fullerton Oil, No. 2 Trustee, Montebello, Los Angeles	12- 2-12	3,977	sd. sh. drig.
Ring Oil, No. 1 Paden, Montebello, Los Angeles ..	3- 2-12	7,630	O.S. drig.
Texas Co., No. 1 Wilcox, Montebello, Los Angeles ..	3- 2-12	2,983	sd. sh. drig.
Star Pet., No. 1 Community, Montebello, Los Angeles	11- 2-12	4,862	sd. sh. drig.
Caminol Co., No. 1-15 Cowan, Montebello, Los Ang.	2- 2-12	7,639	C.P. 7,427
Crail Bros., No. 1 Cowan, Montebello, Los Angeles..	1- 2-12	7,635	O.S. drig.
East Mont. Oil, No. 1 Rissinger, Montebello, Los A.	12- 2-12	3,040	sd. sh. drig.
East Mont. Oil, No. 2 Rissinger, Montebello, Los A.	12- 2-12	5,380	sd. sh. drig.
Wood-Callahan Oil, No. 1 Todd, Montebello, Los A.	2- 2-12	7,630	O.S. drig.
Bush Oil, No. 1 Alauzet, Montebello, Los Angeles ..	3- 2-12	7,670	completing
Bush Oil, No. 2 Olds, Montebello, Los Angeles	3- 2-12	6,990	sd. sh. drig.
Herley-Kelly, No. 1 De Staute, Montebello, Los A.	2- 2-12	7,631	flow 720 b.d.
Sunset Oil, No. 1 Howell, Montebello, Los Angeles	11- 2-12	4,580	sd. sh. drig.
York Oil, No. 1 Long, Montebello, Los Angeles	3- 2-12	4,072	sd. sh. drig.
York Oil, No. 1 Lehman, Montebello, Los Angeles..	10- 2-12	2,983	sd. sh. drig.
United Mont. Oil, No. 1 Lot, Montebello, Los Angeles	11- 2-12	6,891	sd. sh. drig.
United Mont. Oil, No. 2 Lot, Montebello, Los Angeles	11- 2-12	2,080	sd. sh. drig.
Kelso, F. W., No. 1 Brea, Puente Hills, Los Angeles	13- 2-10	2,250	sd. sh. drig.
Union Oil, No. 1 Operators, Long Beach, Los Angeles	13- 4-13	4,532	pump 240 b.d.
Dormax Oil, No. 1 Signal, Long Beach, Los Angeles	30- 4-12	6,198	sd. sh. drig.
Rolling Hills Pet., No. 1 Weston, Palos Verdes, L. A.	27- 4-14	6,160	sd. sh. drig.
Traders Oil, No. 1 Wagner, Richfield, Los Angeles..	22- 3- 9	3,650	rig to pump
Exter Oil, No. 1 Stern, East Coyote, Orange	22- 3-10	4,592	idle
Southwest Expl., No. 22 State, Huntington B., Orange	10- 6-11	2,141	sd. sh. drig.
Sherin Oil, No. 4 Farnsworth, Huntington B., Orange	34- 5-11	3,600	C.P. 3,100
Island View Oil, No. 1 Day, Huntington B., Orange	36- 5-11	4,327	sd. sh. drig.

OKLAHOMA

Week Ending September 9

NORTHERN OKLAHOMA

Caddo County

Sinclair Prairie Oil Co. No. 1 Gorman, SW NW NW Sec. 1-16-13w. S. heavy oil; drlg. 6,330 ft.

Atoka County

Giblett No. 1 Rich, SE SE SW Sec. 2-1-12. S.D. 726 ft.

Canadian County

W. R. Ramsey's No. 1 Mansfield, C NW NE Sec. 16-14-9w. Drlg. 3,175 ft.

Cleveland County

Nels Burton No. 1 Boggs, NE NE SE Sec. 16-9-2w. 2nd Wlx. 7,585 ft.; T.D. 7,646 ft.; P.B. 7,473 ft.; swbd. 30 B.O. and 40 B.W. in 24 hrs.

Nels-Burrton No. 1 Hirsch, NW NW NE Sec. 17-9-2w. O.W.P.B.; O.T.D. 7,692 ft.; T.D. 7,695 ft.; swbd. 250 B.F. in 24 hrs.; 10% B.S.

Sinclair-Prairie No. 1 Ward, SE SE SE Sec. 30-7-1. Hntn. 6,185 ft.; Vla. 6,408 ft.; cd. 6,760-77 ft.; rec. dolo.; dry.

Comanche County

Mid Night Oil No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; T.D. 804 ft.; drlg. by tools 888 ft.

Creek County

Selby O. & G. Co. No. 1 Moore, SE NE SW Sec. 36-16-7. Vla. 3,746 ft.; Wlx. 3,805-35 ft., T.D.; D.&A.

Sunray Oil Co. No. 1 Harris, SW SW NE Sec. 30-14-7. T.D. 2,927 ft.; est. 370,000 cu. ft. gas.

Garfield County

Kerlyn Oil Co. No. 1 Hein, NW NW NW Sec. 36-22-4w. T.D. 5,042 ft.; S. D.O.

Greer County

C. S. Amos No. 1 Banks, C NW SW Sec. 21-7-22w. Drlg. 1,180 ft.

Hughes County

Carter Oil No. 1 Hamilton, C W½ NE SW Sec. 33-4-9. T.D. 4,235 ft., S.D.

Jefferson County

H. M. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. 3,525 ft.

Kay County

Cells & Rutherford No. 1 Wolfenbarger, Sec. 9-27-4. Drlg. 950 ft.

W. C. McBride No. 1-A State, SW NE NE Sec. 13-29-2w. Drlg. 3,755 ft.

E. W. Marland No. 1 Crook, SW SW SE Sec. 21-26-3. Drlg. 1,265 ft.

Kingfisher County

Anderson-Prichard No. 1 Geis, C NE SW Sec. 15-18-9w. Lytn. 6,450-6,510 ft.; T.D. 7,357 ft.; good S.G.; to run csg.

Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Miss. 7,014 ft.; Woodford 7,531 ft.; Msnr. 7,562 ft.; Wlx. 8,-105 ft.; 2nd Wlx. 8,275 ft.; T.D. 8,330 ft.; S.D.O.

Kiowa County

Bollen-Dillard & Roberts No. 1 Holcomb, NE NE SW Sec. 25-7-19w. Rng. 8-in. 1,005 ft.

Hagerling et al No. 1 Bozeman, SE SE NE Sec. 14-5-18w. Drlg. 1,286 ft.

C. J. Hagerling No. 1 Kimray, SW SW NW Sec. 36-5-18w. S.D. 1,432 ft.; repairs.

Lincoln County

Black Gold No. 1 Locquchment, NE NE NE Sec. 28-14-8. T.D. 3,175 ft.; est. 5 B.O.P.D.; S.D.

R. L. Kemp's No. 1-A Burke, NE SW NE Sec. 20-17-6. Drlg. 2,526 ft.

W. A. Villines No. 1 Marshall, NW NE NE Sec. 28-15-4. T.D. 5,080 ft.; S.D.

McIntosh County

W. B. Pine No. 1 Marlin, C N½ SE NE Sec. 14-11-16. Drlg. below 1,540 ft.

Scruggs et al's No. 1 Lanning, SE SW SW Sec. 19-12-15. Drlg. 943 ft.

Noble County

J. E. Crosbie No. 1 Robbins, SW SW NW Sec. 6-22-2w. S.O. 3,261-64 ft.; Miss. 4,842 ft.; drlg. 4,878 ft.

Franks & Ellis' No. 1 Stranka, SW SW NW Sec. 35-24-1w. S.D. 840 ft.

Okfuskee County

Sands Pet. No. 1 Mathews, C W½ NW SE Sec. 5-11-9. T.D. 4,065 ft.; D.&A.

Oklahoma County

Hall & Briscoe No. 1 Thompson, SW SW NE Sec. 28-13-1. S.O. 4,803-27 ft.; drlg. 4,909 ft.

Westcott & Nagle No. 1 Kramer, NE NE NE Sec. 17-12-1w. Dolo. 6,483 ft.; Wlx. 6,570 ft.; 2nd Wlx. 6,640 ft.; T.D. 6,-660 ft.; D.&A.

Osage County

Midco Oil Co.'s No. 1 Osage, NE NE SW Sec. 17-22-8. Drlg. 1,320 ft.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1-21-5. Drlg. 3,105 ft.

Payne County

Blackwell O. & G.'s No. 1 Davis, SE SE SE Sec. 24-18-1. Drlg. 3,968 ft.

C. R. Hoagland No. 1 Stanolind, SE SE SW Sec. 27-18-4. Miss. 3,800 ft.; T.D. 3,905 ft.; D.P. stk.

Pontotoc County

Grisso Royalty and Eason Oil No. 1 Haskins, SE SW SW Sec. 27-5-4. T.D. 2,639 ft.; P. 47 B.O. in 21 hrs.

Smith & Bruson No. 1 Kann, SE SE NE Sec. 13-3-4. S.D. 493 ft.

Simpson-Roodhouse's No. 1 McKay, SW SW NE Sec. 1-2-7. C.&P.

Pottawatomie County

F. W. Cooper No. 1 Strawn, SE SE SW Sec. 32-8-5. T.D. 4,411 ft.; S.D.

E. P. Kerr's No. 1 Harrington, NW NW NW Sec. 24-9-4. Drlg. 3,172 ft.

Neustadt et al No. 1 Howeth, NE SE NE Sec. 14-6-4. Sd. and S.S.O. 3,455-60 ft.; S.D. 5,060 ft.

Sequoyah County

Thompson Bros. No. 1 Ruby, NW NW NE Sec. 30-12-22. Hntn. 1,451 ft.; T.D. 1,912 ft. (cor.); S.D.

Seminole County

Flynn et al No. 1 Work, NE SE SE Sec. 19-8-7. Wlx. 4,276-92 ft.; set pipe.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. T.D. 14,479 ft.; fsg.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,250 ft.; S.D.

SOUTHERN OKLAHOMA

Carter County

Pure Oil Co. No. 1 Noble, NE SE Sec. 35-3s-1e. T.D. 8,500 ft.; P.B. 6,530 ft.; tstd. wtr. at 6,319 ft.; tstd. Hntn. 4,638-4,737 ft.; set plug 4,454 ft.; ran 4,362 ft. of tbg.; P. 135 B.O. in 24 hrs.

Choctaw County

Letchfield & Kirksiy No. 1 Schuester, SW SE SW Sec. 13-6s-14. Drlg. 1,136 ft.

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. T.D. 1,634 ft.; W.O.C.

Cotton County

Dean Bros.' No. 1 Emery, NE NE NE Sec. 30-3s-13w. Drlg. 2,455 ft.

Love County

Neff et al's No. 1 Brahma, NW NW SW Sec. 35-6s-2e. Drlg. 300 ft.

Marshall County

Hughes et al No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; T.D. 7,110 ft.; S.D.

Johnson et al No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Drlg. 1,110 ft.

Tillman County

Oil Inv. No. 2 Hammell, NE NW NW Sec. 6-5s-15w. O.W.D.D.; O.T.D. 2,830 ft.; T.D. 3,353 ft.; S.D.

KANSAS

Week Ending September 9 (Descriptions are East unless marked otherwise)

Barton County

Bradley Oil Co.'s No. 1 Dolecheck, CEL SE NW Sec. 26-16-12w. Congl. 3,379 ft.; Arb. 3,413-26 ft., T.D.; D.&A.

W. H. Brinn No. 1 Dirks, CWL SW NE Sec. 31-18-15w. Lans. 3,280 ft.; pay 3,581 ft.; T.D. 3,585 ft.; 850 ft. F.I.H.

Crown Pet. Co. No. 1 Marchand, NE SE NW Sec. 13-20-11w. Drlg. 2,910 ft.

Crown Pet. Co. No. 1 Schartz, SE SE NW Sec. 29-28-7. Miss. 3,145 ft.; Arb. 3,220 ft.; T.D. 3,230 ft.; D.&A.

R. E. Day et al No. 1 Feltes, SE SE NE Sec. 14-16-12w. O.W.D.D. O.T.D. 1,875 ft.; T.D. 3,574 ft.; S. 13 B.O.P.H.

Simpson Oil et al's No. 1 Brown, CWL NW SE Sec. 31-20-12w. Lans. 3,239 ft.; Arb. 3,507 ft.; cd. 3,508-13 ft.; S.S.O.

Butler County

Adair & Morton No. 1 Jones, CWL NW NW Sec. 29-28-7; Miss. 3,145 ft.; Arb. 3,220 ft.; T.D. 3,230 ft.; D.&A.

Carey & Jennings No. 1 Kelly, C SW Sec. 20-27-4. S.D. 2,660 ft.

Cromwell & Lewis No. 1 Stern, NW NW NW Sec. 27-27-6e. M.I.M.

Crown Pet.'s No. 1 Manny, NW NW NE Sec. 33-28-5. Drlg. 2,410 ft.

Marylyn Oil et al No. 1-A Hoard, SW NE NE Sec. 28-29-8. S.D. 1,265 ft.

Rex & Morris' No. 4 McKaig, SW NW NE Sec. 24-28-6. Drlg. 2,615 ft.

Simpson & Noble et al's No. 1 Marsh, NW NW SW Sec. 23-28-6. Drlg. 2,010 ft.

Coffey County

Sackrider et al No. 1 Allen, SE NE SE Sec. 13-21-15. T.D. 1,929 ft.; S.D.O.

Cowley County

J. R. Lowell et al No. 1 Olsen, NE NE SE Sec. 13-35-7. S.S.O. 2,834-38 ft.; drlg. 3,195 ft.

Wakefield & Blair No. 1 Starkey, SE SE NE Sec. 32-30-4. Fsg. 2,540 ft.

Western Kans. O. & R. Co. No. 1 Gregory, SE SE NW Sec. 2-34-6. Miss. 3,-095 ft.; H.F.W. 3,109-13 ft., T.D.; D. &A.

Dickinson County

Franks et al No. 1 Huffman, NW NW SW Sec. 11-13-1. Hntn. 2,807 ft.; Vla.

3,048-55 ft.; S.S.O. 3,156-65 ft.; C.O. 3,170 ft.

Douglas County

Three Star Oil Co. No. 1 Griffith, C NW SE Sec. 4-14-3e. Miss. 1,525 ft.; Wlx. 2,046 ft.; H.F.W.; S.D. 2,100 ft.

Ellis County

Helmerich & Payne's No. 1 Simpson, NE NE SE Sec. 3-11-17w. Tpk. 2,857 ft.; Lans. 3,142 ft.; Arb. 3,510-30 ft., T.D.; N.S.; D.&A.

Ellsworth County

Central Pet. et al's No. 1 Schepmann, CSL SW NW Sec. 27-17-10w. Lans. 2,987 ft.; Arb. 3,321 ft.; S.O. 3,323 ft.

Franklin County

Security O. & G. Co. No. 1 Teall, C SW NW Sec. 11-17-17. Drlg. 520 ft.

Johnson County

F. O. McCain et al No. 1 Lyons, NW SW NE Sec. 27-13-22. S.D. 345 ft.

Kingman County

Skelly Oil Co. No. 1 Miller, CSL N½ NE Sec. 31-27-10w. Set 7-in. 4,067 ft.; R.U. S.T.

Kiowa County

Sinclair Prairie No. 1 Price, NW NW SW Sec. 22-28-20w. Miss. 4,910 ft.; Arb. 5,538 ft.; T.D. 5,800 ft.; drld. cmt. 4,940 ft.; perf.; swbd. 1 B.F.P.H.

McPherson County

H. C. Bennett No. 1 Peterson, CSL NW NW Sec. 32-20-5w. T.D. 3,365 ft.; 750 ft. O.I.H.; to D.D.

Miami County

Dave Judd No. 1 Waite, CNL SW SE Sec. 4-15-25. S.D. 732 ft.

Joe Wellnbring et al's No. 1 Ramey, NW NW SW Sec. 17-15-23. Gas sd. 600 ft.; S.D. 805 ft.

Montgomery County

Lerke & Whortan No. 1 Clemmer, C SW SW Sec. 21-32-15. Arb. 1,530 ft.; set 5-in. csg.; W.O.C.

Osage County

J. M. Edwards No. 1 Detrick (O.W.D.D.), C NW SE Sec. 21-14-15. O.T.D. 1,200 ft.; S.G. in sh. 1,618-24 ft.; S.D. 1,650 ft.

Pawnee County

Cities Service's No. 1 Robert, C SE Sec. 31-21-15w. T.D. 3,945 ft.; 2,875 ft. W. I.H.; D.&A.

Pratt County

Atlantic Ref. Co. No. 1 Hacker, CWL SE SW Sec. 11-27-13w. Lans. 3,797 ft.; Vla. 4,240 ft.; Simp. 4,355 ft.; R.U.S.T. 4,366 ft.; S.O. 4,364 ft.; P.B. 4,346 ft.

Skelly Oil Co. No. 1 Royse, C SW Sec. 9-28-11w. Lans. 3,604 ft.; Vla. 4,246-49 ft.; T.D. 4,268 ft.; S.S.O.; 802,000 cu. ft. gas.

Rice County

Fred Jones et al No. 1 Benhke, NW SW NW Sec. 25-18-10w. R.U.

Phoenix Drlg. No. 1 Linville, SW SW SE Sec. 4-20-10w. Simp. 3,375 ft.; Arb. 3,388 ft.; H.F.W. 3,396 ft.; S.D. 3,400 ft.

Vickers Pet. Co. No. 1-A Rodenberg, CNL NW¼ Sec. 8-18-10w. Lans. 2,930 ft.; Arb. 3,265-81 ft., T.D. N.S.

Rooks County

Broadview Oil No. 1 Baxter, NE SW SW Sec. 35-8-16w. Lans. 3,180 ft.; S.S.O.; S.D. 3,260 ft.

Russell County

Phil-Han Oil Co.'s No. 1 Mai, CNL S½ NE Sec. 34-14-14w. Drlg. 2,830 ft.

Saline County

Jess Cling et al's No. 1 Erickson (O.W. D.D.), NE NE NE Sec. 28-16-3w. O.T. D. 1,800 ft.; S.D. 2,577 ft.

Sedgwick County

Cameron & Spencer No. 1 Fields, NE NE NW Sec. 4-28-2. K.C. 2,516 ft.; S.D. 2,670 ft.

Parks et al's No. 1 Fisher, NW NW NE Sec. 25-26-1. Fsg. 1,695 ft.

Sherman County

Goodland Ind. Gas Co. No. 1 Wilcoxson, SE NW Sec. 27-8s-39w. T.D. 1,100 ft.; est. 25,000 cu. ft. gas.

Stafford County

Atlantic Ref.'s No. 1 Harter, CEL NE SW Sec. 9-21-13w. Simp. 3,700 ft.; Arb. 3,759 ft.; T.D. 3,795 ft.; N.S.; D.&A.

Chas. Barker's No. 1 Gregg, SW NW SE Sec. 35-25-12. S.G. 1,642-44 ft., T.D.

Continental Oil Co. No. 1 Keller, SE SE SE Sec. 15-24-13w. S.O. 3,733-43 ft., cd. 4,111-16 ft. and rec. 5 ft. sat.; T.D. 4,116 ft.; 3,900 ft. O.I.H.

Woodson County

Bird, Hanley & Sheedy No. 1 Pingrey, C S½ SE Sec. 22-25-15. Spd.

Turner et al's No. 1 Tipton, SE NW SW Sec. 32-25-14. Drlg. 640 ft.

MISSOURI

Adair County

Mason Oil Co. No. 1 McGonigle, CNL SE NW Sec. 20-63-13w. S.O. 1,002-73 ft., 1,116-63 ft.; St. Peter 1,238 ft.; T.D. 1,330 ft.; W.O. csg.

Andrew County

Davis Bros. et al No. 1 Gee, NW NW SE Sec. 28-60n-35w. S.O. in Bart. 995 ft.; drlg. below 1,945 ft.

Jones & Hyde No. 1 Holt, SE NW NE Sec. 34-60-35w. Bart. 1,003 ft.; H.F.W. 2,065 ft.; drlg. 2,145 ft.

Bates County

Monarch Roy.'s No. 1 Lee, C SW SE Sec. 11-39-30w. S.O. 834-36 ft.; drlg. 1,160 ft.

Bollinger County

Deimund Oil No. 1 Cooper, SE SE SE Sec. 14-29-9e. S.D. 1,450 ft.

Buchanan County

Miller et al's No. 1 Carrough, C SE SE Sec. 24-57-35w. Rig.

Butler County

Coastal Pet. et al No. 1 Pierson, SW NE NW Sec. 27-22-6e. S.D. 149 ft. (cor.)

Charlton County

L. E. Mummert et al's No. 1 Rickert, NW NE SE Sec. 26-54-20w. Loc.

Clay County

Eastern Drlg. Co. No. 1 Williams, NW NW NE Sec. 28-53-32w. S.S.O. 475-80 ft.; gas 595 ft.; S.D. 1,884 ft. in Arb.; H.F.W.; T.D. 1,906 ft.; D.&A.

Pabelo Dev. Co.'s No. 1 Bartlett, SE NW NE Sec. 34-52-32w. R.U. mch.

Pabelo Dev. Co.'s No. 5-A Robb, NW NW SE Sec. 36-52-32. T.D. 600 ft., S.G.; S.D.O.

Clinton County

C. E. King et al's No. 1 Vanderau, SE NE SW Sec. 18-55-31w. S.D. rprs. 400 ft.

DeKalb County

Geo. W. Moore No. 1 McQuate, NE SW SW Sec. 11-57n-31w. Miss. 1,075 ft.; S.D. csg. 1,500 ft.

Harrison County

H. V. Elwell et al's No. 1 Maple, NE SW SE Sec. 3-62-26w. Drlg. 820 ft.

Holt County

Brin & Nathan No. 1 Decker, C NW NW Sec. 1-61-38w. Drlg. below 793 ft.

Markham et al No. 1 Gaffney, SW SE SW Sec. 24-63-40w. Spd. and S.D.

Jackson County

Bradford & Son's No. 1 Trantos, SE NW NW Sec. 8-49-32w. Drlg. 395 ft.

Hulse & Christopher's No. 1 Wiston, NE NW SE Sec. 22-49-32w. S.D. 495 ft.

Livingston County

Davis Bros. No. 1 Minning, SE SE NW Sec. 22-58-23w. T.D. 587 ft.; S.D.O.

J. E. Linton's No. 1 Chillicothe, C S½ NE SE Sec. 15-56-23w. Loc.

Mercer County

Geo. W. Moore No. 1 Castell, NE NE NE Sec. 32-65-24w. Loc.

Geo. W. Moore No. 1 Moss, NW SW SE Sec. 30-65-24w. Hntn. 1,273 ft.; T.D. 1,760 ft.; bailing to test.

Putnam County

Morrow et al's No. 1 Cooley, SE SE NW Sec. 33-64-17w. Drlg. 92 ft.

C. E. Dittman's No. 1 Houston, NW SW SE Sec. 26-65-19w. Arb. 1,674 ft.; T.D. 1,779 ft.; to test Arb.; pulling csg.

Randolph County

A. A. Ash et al's No. 1 Alexander, C SE Sec. 14-55-13w. Loc.

Ray County

Loomis-Jordan, No. 1 Macey, NE SW NW Sec. 10-53-27w. S.O. 330 ft., T.D.; set csg.

Schuyler County

T. E. Baldwin No. 1 May Johnson, NW NE NE Sec. 21-65-15w. Drlg. 254 ft.

Shelby County

Wright & Turner No. 1 Turner, C NW NW Sec. 27-59n-9w (wildcat). S.D. 650 ft.

NEBRASKA

Cass County

Golden Rod Oil Co. No. 1 Sparer, SE SE SE Sec. 8-11-13e. Drlg. 900 ft.

Scotts Bluff County

J. A. Fairy Pet. Corp. No. 1 McCully, C SE SE Sec. 35-23n-58w. Set 6-in. 1,407 ft.; S.S.O. 1,515 ft.; drlg. 1,850 ft.

Albert Wood No. 1 McHenry, SE NE NE Sec. 33-23n-57w. T.D. 1,900 ft.; S.D.

ewes, C W½ NE NE Sec. 31-10s-20w. Run 10-in. csg. 41 ft.; T. Nac. 358 ft.; S.S.O.; reported S.O.&G. 437 ft.; drlg. sh. 855 ft.

Columbia County

McAlester Fuel Co.'s No. 1 E. D. Harris et al, C SW NW Sec. 14-17-19. Drlg. 2,295 ft.

Marine Oil Co. No. 1 Jones, 656 ft. N, 663 ft. W, SE cor. NE NW Sec. 21-17-20. Drlg. rd.&gr. sh. 5,994 ft.

Normandie Oil Co. No. 1 Dees, C NE SE Sec. 24-17-20. Fsg. D.S. 7,439 ft.

Shell Oil Co., Inc.'s No. 1 W. F. Merritt, C NE SW Sec. 15-17-20. 13⅜-in. csg. 133 ft.; 9⅝-in. csg. 2,187 ft.; T. D. 2,200 ft.; W.O.C.

Southwood Oil Co. No. 1 H. F. Simmons, C NE SW Sec. 22-17-20. 10¾-in. csg. 2,167 ft.; drlg. rd.&gr. sh. 6,370 ft.

Standard Oil No. 1 J. A. Foster, Sec. 19-17s-19w. Set 6-in. csg. 7,453 ft.; set 370 ft. of 4½-in. at 7,594 ft.; fsg. tbg.; T.D. L., 7,594 ft.; milling tbg.

Standard Oil Co. of La. No. 1 Merritt et al Unit, C SW SE Sec. 16-17-20. Set 9⅝-in. csg. 2,212 ft.; drlg. 6,875 ft.

G. H. Vaughn's No. 1-B J. Jones, C NW NE Sec. 21-17-20. T. Bknr. 7,430 ft.; T.D. 7,575 ft.; rng. csg.

Craighead County

Tennark, Inc., No. 1 R. M. Martin, SE cor. NE NE Sec. 35-14-3e. S.D.; W.O.; hd. gr. L. 3,155 ft.

Faulkner County

Cato Oil Co., Inc.'s No. 1 R. R. Harrell, 330 ft. SE cor. SE SW Sec. 35-4n-12w. Set 10-in. csg. 210 ft.; 7-in. csg. 2,260 ft.; sd. 2,367-70 ft.; flwd. est. 40,000 cu. ft. gas daily; S.I.C.P. 50 lb.; T.D. 2,380 ft.; fsg. bit; rep. rig.

Howard County

Wm. James No. 1 I. M. Brooks, 115 ft. W, 462 ft. N, SE cor. NW NW Sec. 2-8s-27w. Pulled 10¾-in. csg.; rmd. to bttm.; S.D. 346 ft.; W.O.

Joe Rogers et al No. 1 Dierks Lbr. Co., C SW SW Sec. 7-8s-28w. R.U.C.T.

Independence County

C. P. Daniels' No. 1 Kelly Myatt, 1,085 ft. S, 50 ft. E, NW cor. SE Sec. 16-12n-5w. T. gas sd. 598 ft.; T.D. 603 ft.; no csg. in hole; W.O.

Lafayette County

East Texas Ref. Co. et al's No. 1-B Bell, C N½ SE NW Sec. 19-16-23. 10-in. csg. 110 ft.; drlg. 3,545 ft.

East Tex. Ref. Co. et al No. 2 Buchanan, 330 ft. N, 660 ft. E, SW cor. NE NW Sec. 19-16-23. Set 5½-in. csg. 3,386 ft.; swbd. dry; acd. with 3,000 gal.; flwd. 239 B.O.; ½-in. ck. and went dead; S.I.; C.P. 100 lb.; acd. with 2,000 gal.; swbg. to test 3,474 ft.

East Texas Ref. Co. et al's No. 1 Geo. McGee, C N½ NE NE Sec. 23-16-24. 10¾-in. csg. 135 ft.; drlg. 3,546 ft.

Little River County

C. & M. Drlg. Co.'s No. 1 Strawn, NW cor. SE SW Sec. 17-10-32. Flwg. S.W.; will recmt. 7-in. csg. 1,590 ft.; T.D. 1,810 ft.

Lonoke County

Cabot Drlg. Club, Inc., No. 1 Benson townsite, Sec. 18-4n-9w. Reported S.O. 1,400-50 ft.; hole clean; ran survey to 2,573 ft.; P.B. 1,470 ft.; set 4½-in. csg. 1,390 ft.; reset 4½-in. csg. 1,540 ft.; P.B. to test sd. 1,950 ft.; shot with 40 qt. nitro and bailed dry; arng. P.B. 1,340 ft. and test.

W. L. Tedford No. 1 Anderson, Sec. 7-4n-9w. Set 6¼-in. csg. 1,025 ft.; reseating 6-in. csg. to S.O.W. 1,125 ft.; U.R. 6-in. csg. 1,080 ft.

Nevada County

Benedum & Trees Oil Co.'s No. 2 W. R. Mitchell, 330 ft. N, 990 ft. W, SE cor. Sec. 4-14-20. Set 7-in. csg. 2,140 ft.; W.O.S.R.; 400 ft. F.I.H.; T.D. 2,142 ft.

Benedum & Trees Oil Co.'s No. 3 W. R. Mitchell, 150 ft. S, 330 ft. E, NW cor. SW SE Sec. 4-14-20. Drlg. 1,450 ft.

Ouachita County

J. E. Crosbie, Inc., No. 2 F. A. Laney, Sec. 36-15-16. Stk. 5⅛-in. 2.777 ft.; set 966 ft. at 2,777 ft.; T.D. 2,832 ft.; shot with nitro 2,575-78 ft.; pmpd. est. 50 B.F.P.D.; S.S.O.; O.T.D. 2,832 ft.; rpd. csg. 2,570-78 ft.; rpd. csg. 2,306-10 ft.; pmpd. est. 600 bbl. S.W. per day; W.O.

Lion Oil Ref. Co. No. 1 B. Annie, SE NE Sec. 29-15-17. D.S.T. 5,656-66 ft.; 13 min.; rec. 35 ft. drlg. fluid and S. S.O.; 7-in. csg. 5,640 ft.; T.D. 5,666 ft.

A. B. Turner et al No. 1 Cook Est., C NW SW Sec. 27-15-18. 10-in. 210 ft.; T. Nacth. 1,588 ft.; claim S.S.O.; S.D. 1,603 ft.; W.O.

Pike County

Bruce E. Wallace No. 2-A Glenn Tilyeu, 320 ft. N, 330 ft. W SE cor. Sec. 26-8s-24w. Set 6-in. csg. 385 ft.; reported S.O. 400 ft.; set 4-in. csg. 501 ft.; S.D. 557 ft.; W.O.

Pulaski County

Coker Oil Corp.'s No. 1 Huffman, 330 ft. NW cor. NW SW SW Sec. 29-4n-11w. 8¾-in. csg. 206 ft.; drlg. bl. sh. &strks. sd. 1,642 ft.

Union County—Schuler

Lion Oil Ref. Co.'s No. 2 Calloway, 330 ft. SE cor. SE SE Sec. 13-18-18. Drlg. 1,325 ft.

Union County—Other

Arkansas Southern Oil Corp. No. 3-A Simmons, NW cor. NE NW Sec. 15-18-13. Set 4-in. csg. 2,510 ft.; W.O.C.

Crestrock Oil Co.'s No. 1 E. Riley, 330 ft. S, 256 ft. W, NE cor. NW SW Sec. 9-16-15. S.O. 2,370-80 ft. and 2,390-2,400 ft.; 6-in. csg. 2,415 ft.; T.D. 2,415 ft.; W.O.C.; will drill in with C.T.

H. L. Halverson No. 1 Moore, C SE SE Sec. 1-17s-14w. Set 10¾-in. csg. 103 ft.; W.O.C.

Lion Oil Ref. Co. No. 9-A Hays, Sec. 4-16-15. O.W.W.O.; O.T.D. 7,255 ft.; P.B. 2,325 ft.; rpd. csg. 2,276-80 ft.; S.O.; pmpd. est. 700 B.P.D. S.W.; S.S.O.; arng. recmt. 2,325 ft.

Joe Modisett et al No. 2 Union Sawmill Co., C NW NE Sec. 13-18-12. 10¾-in. csg. 1,237 ft.; T. Tr. Pk. 2,865 ft.; drlg. rd.&gr. sh. 5,697 ft.

Joseph E. Moore's No. 1 Union Sawmill Co., 330 ft. N and W, SE cor. NE NE Sec. 24-17-14. M.I. rig.

MISSISSIPPI

Claiborne County

Claiborne Co. Dev. Co. No. 1 Ruth Hayden, S½ SE Sec. 55-11n-2e. O.W.WO.; O.T.D. 2,949 ft.; S.D. 3,272 ft., sh.

Copiah County

Triangle Drlg. Co.'s No. 1 W. W. Broome, 153 ft. SW cor. SW SE Sec. 1-10n-8e. Drk.

Harrison County

Big Ridge Oil Co. No. 1 Hingin, Sec. 13-7s-10w. T.D. 2,700 ft.; T.A.

Hinds County

G. Jeffreys No. 1 Gaddis Farms, Inc., 700 ft. E, 545 S, NW cor. SE Sec. 26-7n-4w. S.W. and abd. 7,220 ft.

Humphreys County

Union Prod. Co. No. 1 Mrs. Mattie Box, C SW Sec. 15-14n-4w. T. igneous rk. 3,634 ft.; T.D. 5,652 ft.; ign. rk.; D. &A.

Issequena County

Ryan & Anderson, Inc., No. 1 State of Miss., 600 ft. N, 400 ft. E, SW cor. Sec. 36-12n-8w. T.D. 3,534 ft.; S.W. and abd.

Kemper County

M. R. Crabb et al's No. 1 W. T. Caldwell, NW SE Sec. 25-9n-15w. Drlg. 650 ft.

Lafayette County

Adam O. & G. Co. No. 1 Z. E. Lewellen, 990 ft. WL, 330 ft. NL, NE NW NW Sec. 9-10s-1w. Drlg. chert 3,300 ft.

Prentiss County

Home Dev. Co.'s No. 1 Mrs. A. Allen, Sec. 8-7s-9e. Drlg. L. 976 ft.

Rankin County

Wilmut O. & G. Co.'s No. 2 Boehle, 122 ft. N, 560 ft. E, C Sec. 18-5n-2e. T.D. 2,470 ft.; D.&A.; bl. sh.; (Midway).

Simpson County

Cleve Love No. 1 N. E. Gardner, SW cor. SW NE Sec. 1-10n-17w. S.D. 3,150 ft., Wlx.

Yazoo County

Union Prod. Co.'s No. 1 S. E. Perry et al, C NW NW Sec. 24-10-3. Loc.

Union Prod. Co.'s No. 1 Stevens, C NW NW Sec. 13-10-3. Loc.

Union Prod. Co. No. 1 G. C. Woodruff, 1,320 ft. N, 660 ft. E. SW cor. Sec. 13-10n-3w. T.D. 4,437 ft.; P.B. 4,337 ft.; cd. 4,540-60 ft., L., oil sd.&sh.; D.S.T. 4,540-60 ft.; ½-in. cks. top and bttm.; W.P. 14 lb.; rec. 42 thrib. 32.8-grv. oil; ran Schlumberger; set 7-in. csg. 4,534 ft.; comp.; 186 B.P.D. ¼-in. ck.; T.P. 300 lb.; C.P. 240 lb.; T.D. 4,560 ft.

FLORIDA

Levy County

Florida Oil Discovery No. 2 Cedar Key Co., Sec. 9-15s-13e. 10-in. csg. 3,986 ft.; drlg. sh. 5,158 ft.

Nassau County

St. Mary Oil Corp. No. 1 Hillard, Sec. 19-4n-24e. Set 6⅝-in. csg. 3,935 ft.; drlg. sd. 4,762 ft.

ARKANSAS

Clark County

W. S. King's No. 1 H. Ross, 640 ft. S, 350 ft. W, NE cor. S½ SW Sec. 3-10-21. Drlg. sh. 1,172 ft.

W. P. Wilson's No. 1 Hamilton & Math-

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Ark. La. Gas Co.'s No. 1 Gayoso, 1,880 ft. N, 660 ft. E, SW cor. Sec. 14-16-10. O.W.D.D.; O.T.D. 2,613 ft.; gas sd. 7,217-31 ft. and 7,331-47 ft.; S.G. and dist.; drlg. sh.&L. 5,004 ft.

Hunt Oil Co. No. 1 Hodge-Hunt Lbr. Co., 300 ft. E, C Sec. 36-17n-6w. T. Pettit L. 6,710 ft.; no por.; set 7-in. csg. 7,313 ft.; T.D. 7,947 ft.; perf. 7,217-30 ft.; tstg.

Bossier Parish

Gulf Ref. Co.'s No. 20 C. B. Hodges, 3,131 ft. N, 1,388 ft. W, SE cor. Sec. 24-16-12. Drlg. sdy. sh. 2,679 ft.

Longwood O. & G. Co.'s No. 1 Belden & Baughn, C SE NW Sec. 28-20-12. Set 5½-in. csg. 1,348 ft.; perf. 1,215-25 ft.; tstd. S.W.; W.O. 2,780 ft.; will abd.

Premier Inv. Co.'s No. 6-B Kendrick, 1,714 ft. E, 1,347 ft. N, SW cor. Sec. 22-19-11. Sd. 1,765-72 ft., S.O.; 8⅝-in. csg. 1,765 ft.; W.O.C.; T.D. 1,772 ft.

J. B. Stovall's No. 2 Gayoso, 50 ft. S, 350 ft. E, NW cor. SW SW Sec. 14-19-11. Drlg. 230 ft.

Union Prod. Co. No. 1 Lincoln Ld. Co., 1,320 ft. W, C Sec. 17-16-10. Tstd. Ptt. L. 5,230-50 ft.; no show; D.S.T. 5,230-50 ft.; tstd. dry; T. Tr. Pk. 5,532 ft.; set 5-in. csg. 5,225 ft.; drld. to 5,360 ft.; acd. with 1,000 gal.; no show; re-acd. with 5,000 gal.; tstg.

Caddo Parish

S. H. Cassidy et al's No. 2 R. E. Collins, 1,235 ft. N, 170 ft. W, SE cor. NE SE Sec. 2-20-16. Set 7-in. csg. 1,425 ft.; used 3,000 gal. acid; W.O.S.R. 1,628 ft.

Paul Cooper's No. 7 Stiles, Sec. 33-21-16. O.W.D.D.; O.T.D. 1,850 ft.; washing to bttm. 1,850 ft.

L. I. Davis' No. 1 Williams, C NW NW Sec. 14-15-15. R.U.

Hamilton & Stone No. 1 Atlanta, 500 ft. S. 244 ft. W, NE cor. NW Sec. 2-20-16. Set 6-in. csg. 1,701 ft.; S.D. 2,292 ft.

A. R. Hancock's No. 5 Standard Oil fee, Sec. 18-21-15. O.W.D.D.; set 7-in. csg. 1,525 ft.; acd. with 3,000 gal.; W.O. S.R. 1,700 ft.

C. C. Lowery's No. 2 Collins et al, 985 ft. E, 210 ft. N, C Sec. 7-20-15. Set 10-in. csg. 60 ft.; W.O.C.

P. N. McCullough's No. 1 Hart, SW SW Sec. 21-21-16. Set 5-in. csg. 1,023 ft.; T.D. 1,025 ft.; W.O.S.R.

Mahoan & Griffith's No. 2 J. W. Browning, Sec. 27-22-16. Cg. 2,643 ft.

J. F. Mechen's No. 1 Crystal, 990 ft. S, 900 ft. W, NE cor. Sec. 14-21-16. 10-in. 40 ft.; W.O.C.

A. H. Neighbors No. 1 W. C. Agurs, 660 ft. N, 990 ft. E, SW cor. SE Sec. 2-20-16. 8-in. csg. 1,430 ft.; 3,000 gal. acd.; H.F.O.; T.D. 1,605 ft.; W.O.

Dr. Eugene Newton's No. 1 fee, Sec. 1-20-16. 6⅝-in. csg. 1,345 ft.; W.O.C.

Oblinger & Ritter No. 3 Boisseau, 1,220 ft. N, 1,310 ft. E, SW cor. SE Sec. 34-21-16. 6-in. csg. 969 ft.; W.O.S.R.

Prairie River Synd. No. 2-B Hutchison, 4,055 ft. N, 480 ft. E, SW cor. Sec. 3-15-12. Set 13⅜-in. 735 ft.; 4,545-54 ft. S.S.G.; fairly. por. ooi. L.; good odor gas; drig. brk. sh. 5,210 ft.

John Schmidt No. 2 Sproull, 970 ft. N, 570 ft. W. SE cor. Sec. 32-20-16. Tstd S.W. 1,654 ft.; acd. with 3,000 gal. and tstd. S.W.; T.D. 1,654 ft.; W.O.

Seymour Oil Co. No. 1 Hughes et al. 330 ft. NE cor. NW Sec. 15-20-15. W.O. csg. 2,204 ft.

Skidmore-O'Mara, Inc.'s No. 1 Muslow, O.W.W.O., 4,150 ft. N, 579 ft. W, SE cor. SW Sec. 31-21-15. Will set csg. 1,572 ft.

Stanolind O. & G. Co. No. 1, 131 Dillon hrs., C SE NE Sec. 14-21-15. Cg. hd. sd.&sh. 7,432 ft.

Joe G. Strahan's No. 3-A Stiles, 1,908 ft. N, 723 ft. E, SW cor. Sec. 29-21-16. 6-in. csg. 2,241 ft.; drig. plug.

Terrill & Horton No. 1 Smith, 200 ft. S and W, C Sec. 36-21-16. Set 6⅝-in. csg. 2,262 ft.; W.O.C. 2,289 ft.

Texas Co.'s No. 17-B Noel, 1,650 ft. E, 990 ft. S, NW cor. Sec. 14-21-15. 6-in. csg. 1,506 ft.; arng. acd. 1,635 ft.

Caldwell Parish

Ark. Fuel Oil Co. No. 1 La. Central Lbr. Co., C NW SW Sec. 31-12-3e. T. Wlx. 1,516 ft.; 9⅝-in. csg. 1,732 ft.; drig. 5,838 ft.

Critchett & Woods (formerly E. T. Oakes) No. 1 Kyles, NE cor. SW NE Sec. 18-11-3e. Drlg. sh. 3,650 ft.

Catahoula Parish

Bell Drlg. Co. No. 1 Peck, C SW NE Sec. 33-11n-8e. Set 41 ft. 15½-in. csg.; 50 ft.; W.O.C.

Claiborne Parish

Lisbon Explin. Co. No. 1 Roberta Vaughn, 330 ft. N, 660 ft. E, SW cor. NW NE Sec. 36-21-5. O.W.D.D.; O.T.D. 5,313 ft.; recmtd. 7-in. csg. 5,343 ft.; drig. sdy. sh. 6,750 ft.

Maritsky & Bibby's No. 4 McClung, Sec. 29-21-7. 10-in. 90 ft.; W.O.C.

De Soto Parish

Murray Davis' No. 1 Russell, 50 ft. N, 500 ft. W, SE cor. NE NW Sec. 12-11-16; O.W.D.D.; O.T.D. 2,046 ft.; T.D. 2,515 ft.; tstd. S.W.; P.B. 1,700 ft.; tstd. small S.G.; drig. sh. 2,670 ft.

Roosth & Genecov Prod. Co. No. 1 Woolums, 990 ft. S. 330 ft. E NW cor SW¼ Sec. 29-12-12. T. Nac. sd. 1,038 ft.; reported S.O. 1,038-64 ft.; P.B. 1,048 ft.; 7-in. 1,038 ft.; tstd. dry; S.D.; W.O. 1,064 ft.

C. H. Tuttle No. 2-A Wemple, E NW cor. SW¼ Sec. 14-12n-11w. Drlg. sdy. sh. 2,465 ft.

Watts Oil & Gas Co. No. 1 Frank Grocery Co., 338 ft. S, 450 ft. W NE cor., NW Sec. 35-12-11. S.D. 940 ft.

Franklin Parish

Continental Oil Co.'s No. 1 Sherrouse, 330 ft. N, 660 ft. W, SE cor. NE SE Sec. 22-13n-8e. Set 16-in. csg. 207 ft. T. limy sd. 1,203 ft.; gas blew out and went dead; 10¾-in. csg. 1,225 ft.; T.D. 1,252 ft.; W.O.C.

Grant Parish

Arrow Drlg. Co.'s No. 1 Maxwell, 330 ft. S, 810 ft. W, C Sec. 9-9-1e. T. sd. 1,534 ft.; 6-in. csg. 1,530 ft.; W.O.C.; T.D. 1,537 ft.

La Salle Parish

Smith Bros.' No. 1 Kenney, 660 ft. S, 150 ft. W, C Sec. 7-10-2e. T.D. 632 ft.; S.D.; wtr.

Morehouse Parish

Union Prod. Co. No. 1-A Tensas-Delta, 1,894 ft. W, 1,584 ft. S, NE cor. SE Sec. 8-22-4. Set 20-in. csg. 125 ft.; 16-in. csg. 712 ft.; set 10¾-in. csg. 2,448 ft.; drlg. red sdy. sh. 5,700 ft.

Natchitoches Parish

Jack Lent et al's No. 1 Walker, C NE NE Sec. 9-10-10. 10-in. csg. 63 ft.; W. O.C.

Sabine Parish

Major Oil Co. No. 7 Bowman Hicks, 330 ft. NW cor. NE SE Sec. 11-7-13. T. clk. 2,139 ft.; set 7-in. csg. 2,143 ft.; drlg. 2,165 ft.

M.C.M. Drlg. No. 1 Sipulvado, Sec. 4-7n-13w. 6-in. 2,040 ft.; T. chk. 2,012 ft.; tstd. S.G. 2,108 ft.; used 3,000 gal. acd.; tstd. S.O.; tstg. 2,494 ft.

Oglesby & Baird's No. 1 Sabine Lbr. Co., SW cor. SW SE Sec. 5-7-13. Drlg. 1,210 ft.

Okla.-Texas Tr.'s No. 3 Frost Lbr. Co., NE cor. NE SW Sec. 22-9-13. Sd.; S.O. 2,027-29 ft.; arng. test.

K. R. Phillips No. 1 Craig, 335 ft. S, 330 ft. E NW cor., SE Sec. 22-9-13. 5-in. csg. 1,568 ft.; T.D. 1,683 ft.; tstd. S.O.; used 500 gal. acd.; 1,300 ft. F.I.H.; T.D. 1,698 ft.; W.O.S.R.

W. L. Posey No. 1 Rivers, C NW NW Sec. 26-8-13. 6-in. csg. 2,147 ft.; T.D. 2,150 ft.; W.O.C.

W. M. Quick No. 1 Sabine, SE cor. NE SE Sec. 8-7-13. 6-in. csg. 2,061 ft.; tstg. 2,116 ft.

H. M. Sneed No. 1 Leone, SW cor. NW SE Sec. 8-7-13. T.D. 1,962 ft.; 6-in. csg. 2,061 ft.; W.O.S.R.; T.D. 2,116 ft.

Webster Parish

Geo. B. Barham's No. 1 Bodcaw Lbr. Co., 627 ft. N, 710 ft. E, SW cor. SE Sec. 15-21-10. O.W.D.D.; O.T.D. 4,683 ft.; arng. dpn.; drk.

Geo. B. Barham No. 1 Merritt, 596 ft. N, 736 ft. E, SW cor. Sec. 14-21-10. Set 5-in. csg. 5,913 ft.; Hillwy. sd. 5,675-80 ft. (gas and dist.) and 5,756-63 ft.; oil; perf. 5,675-80 ft. and 5,756-83 ft.; T.D. 5,913 ft.; tstd. 36 B.P.D.; open tbg.; T.P. 50 lb.; C.P. 150 lb.; tsg. perf. gun 5,913 ft.

Hassie Hunt's No. 1 Gardner, C NW NE Sec. 32-21-10. Drlg. sh.&L. 4,840 ft.

Hassie Hunt's No. 2 Gardner, 760 ft. S, 660 ft. W, NE cor. Sec. 22-21-10. Drlg. 3,090 ft.

Hunt Oil Co. No. 1 Glass et al, C SE NW Sec. 30-21-9. Set 9⅝-in. csg. 5,665 ft.; drlg. hd. sd. 7,640 ft.

Hunt Oil Co. No. 2 E. L. Stewart, Sec. 32-21n-10w. No Hillwy. sd.; drlg. L.&sh. 8,135 ft.

Midstates Oil Corp.'s No. 1 W. L. Coyle, 100 ft. NW, C NE SE Sec. 20-21-10. Drlg. sh.&L. 5,675 ft.

Ohio Oil Co.'s No. 25 Gray Acct. 1, 1,980 ft. S, 660 ft. E, NW cor. Sec. 26-21-10. Set 9⅝-in. csg. 616 ft.; cd. sd. 5,576-86 ft.; arng. core ahd.

Stanolind O. & G. Co. No. 3 Pardee, C SW SE Sec. 35-21-10. Drlg. sd.&sh. 7,610 ft.

Stanolind O. & G. Co.'s No. 4 Pardee, 660 ft. SE cor. Sec. 25-21-10. Drlg. sd. &sh. 3,757 ft.

Woodley Pet. Co.'s No. 2 Couch, 810 ft. S, 510 ft. W, NE cor. SW Sec. 35-21-10. R.U.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 3 Brookshire. Sec. 66-12s-3e. Drk.

Continental Oil Co. No. 1 David Meaux, Sec. 9-12s-3e. Drlg. sh. 11,210 ft.

Continental Oil Co. No. 1 Franciol, Sec. 67-12s-3e. Drk.

Stanolind O. & G. Co.'s No. 1 J. E. Kibbe, Sec. 50-12s-3e. Loc.

Bancroft—Beauregard Parish

Republic Prod. Co.'s No. 1 Whitman, Sec. 21-6s-13w. R.U.

Republic Prod. Co. No. 10 Columbia Ld. & Tbr. Co., Sec. 15-6s-13w. Drk.

Republic Prod. Co. No. 9 Lutcher Moore, Sec. 15-6s-13w. Drlg. sdy. sh. 9,132 ft.

Republic Prod. Co. No. 10 Lutcher-Moore, Sec. 15-6s-13w. T.D. 7,330 ft.; 5½-in. csg. 7,330 ft.

Bateman Lake—St. Mary Parish

Texas Co. No. 1 St. Mary Parish Sch. Bd., Sec. 16-16s-12e. Drlg. sdy. sh. 7,581 ft.

Texas Co. No. 2 State-Bateman Lake, Sec. 21-16s-12e. 7⅝-in. csg. 10,985 ft.; T.D. 11,609 ft.; perf. csg. 10,822-45 ft.; tstg.

Baton Rouge—East Baton Rouge Parish

W. V. Bowles' No. 2 Richard Community, Sec. 45-7s-1e. Loc.

W. V. Bowles et al's No. 1 E. Reinkin, Sec. 46-7s-1e. T.D. 6,518 ft.; run 5½-in. csg.

Guaranty Oil Co. No. 2 Morgan, Sec. 65-7s-1w. T.D. 6,530 ft.; run 5½-in. csg.

M. T. Grubb et al No. 1 University Hills, Sec. 68-7s-1w. T.D. 6,588 ft.; 5½-in. csg. 6,568 ft.; I.P. 300 B.P.D.; ¼-in. ck.

Wm. Helis No. 1-B Duplantier, Sec. 68-7s-1w. T.D. 6,505 ft.; 7-in. csg. 6,509 ft.; I.P. 331 B.P.D.; ¼-in. ck.

Wm. Helis' No. 2-B Duplantier, Sec. 68-7s-1w. Drlg. sh. 60 ft.

Wm. Helis' No. 8-A Duplantier, Sec. 65-7s-1w. 10¾-in. csg. 2,057 ft.

Wm. Helis et al's No. 2-D D. D. A. Duplantier, Sec. 66-7s-1w. Drlg. sh. 5,323 ft.

Wm. Helis No. 7-A D. A. and E. A. Duplantier, Sec. 65-7s-1w. T.D. 6,477 ft.; 7-in. csg. 6,460 ft.; I.P. 240 B.P.D.; ¼-in. ck.

Wm. Helis et al's No. 2 Materiste, Sec. 66-7s-1w. T.D. 6,480 ft.; T.S. 6,463 ft.; run csg.

Wm. Helis No. 3 Nelson, Sec. 36-7s-1w. T.D. 7,194 ft.; perf. csg. 6,462-68 ft.; flwd. 80% S.W.; killed; sqzd. perf.; W.O.C.; perf. csg. 6,460-68 ft.; lost swb.; P.B. 6,486 ft.; perf. csg. 6,460-82 ft.; I.P. 225 B.P.D.; ¼-in. ck.

Wm. Helis' No. 2 Williams, Sec. 66-7s-1w. Loc.

J. Edw. Jones' No. 1 Nichols Community, Sec. 45-7s-1e. T.D. 6,030 ft.; stk. D.S.

T. G. Markley et al No. 3 Knox, Amis-Farnbacher, Sec. 66-7s-1w. Loc.

T. G. Markley et al's No. 4 Knox-Amis-Farnbacher, Sec. 66-7s-1w. Drlg. sh. 6,450 ft.

T. G. Markley et al's No. 5 Knox-Amis-Farnbacher, Sec. 66-7s-1w. Loc.

T. G. Markley-Crosby Drlg. Co.'s No. 4 Kmoy-Amis Farnbacker, Sec. 66-7s-1w. T.D. 6,482 ft.; 7-in. csg. 6,468 ft.; I.P. 384 B.P.D.; ¼-in. ck.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 19 State-Bay St. Elaine. Sec. 18-22s-18e. T.D. 6,500 ft.; 9⅝-in. csg. 6,400 ft.

Bayou Choctaw—Iberville Parish

Standard Oil Co. (La.) No. 11 Wilbert, Sec. 53-9s-11e. T. salt 718 ft.; drlg. salt 3,392 ft.

Bayou des Glaise—Iberville Parish

Humble O. & R. Co. No. 1-B Wilbert, Sec. 78-8s-8e. T.D. 3,025 ft.; 13⅜-in. csg. 3,000 ft.; T. salt 4,101 ft.; T.D. 4,182 ft.; S.D.

Bayou des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 2 Gheens Realty Co., Sec. 37-15s-20e. T.D. 7,672 ft.; 5-in. csg. 7,618 ft.; perf. csg. 7,245-80 ft.; tstg.

Black Bayou—Cameron Parish

Earth Pet. Co. No. 2 R. A. Moore, Sec. 18-12s-12w. Drlg. sh. 6,157 ft.

Caillou Island—Terrebonne Parish

Texas Co.'s No. 58 State, Sec. 20-23s-30e. T.D. 3,808 ft.; 7-in. csg. 3,773 ft.

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.

Texas Co. No. 57 State, Sec. 20-23s-20e. T. salt 3,734 ft.; T.D. 3,750 ft., salt; 7-in. csg. 3,750 ft.; perf. csg. 3,680-3,710 ft.; tstd. mud; perf. csg. 3,620-64 ft.; I.P. 105 B.F.P.D.; ¼-in. ck.; 3% S.W.

Cameron Meadows—Cameron

Magnolia Pet. Co. No. 25 Cameron Meadows, Sec. 21-14s-13e. Drlg. sh. 6,413 ft.

De Large—Terrebonne Parish

Fohs Oil Co. No. 1 Buckley-Mahler, Sec. 25-19s-16e. T.D. 12,942 ft.; P.B. 12,430 ft.; sdtrkd.; set 2,895 ft. of 7-in. csg. at 12,740 ft.; T.D. 13,270 ft.; perf. csg. 12,812-18 ft.; tstd. S.W.; S.S.G.; abd.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 1 Cypress, Sec. 75-15s-15e. 13⅜-in. csg. 1,842 ft.; drlg. sh. 5,849 ft.

Sun Oil Co. No. 2 Dodge Sunberry, Sec. 65-15s-15e. S.D. 4,259 ft.; T.A.

Chalkley Field—Cameron Parish

Humble O. & R. Co.'s No. 5 K. B. Hanzen, Sec. 9-12s-6w. Drk.

Humble O. & R. Co. No. 4 Sweet Lake Ld. & O. Co., Sec. 7-12s-6w. T.D. 8,448 ft.; P.B. 7,508 ft.; sdtrkd.; drlg. sh. 6,702 ft.

Shell Oil Co., Inc., No. 3 Hanzen, Sec. 21-12s-6w. 10¾-in. csg. 2,752 ft.; cg. oil sd. 8,818 ft.; T.S. 8,815 ft.; T.D. 9,114 ft.

Charenton—St. Mary Parish

Commerce Oil Co.'s No. 3 Parro, Sec. 31-13s-10e. Drlg. sh. 4,798 ft.

Fifteen Oil Co. No. 2 State, Sec. 31-13s-10e. Drlg. sh.&L. 7,600 ft.

Knisley Oils, Inc.'s No. 1 Hertel, Sec. 21-13s-9e. T.D. 1,806 ft.; P.B. 1,150 ft.; W.O.C.

Knisley Oil Co.'s No. 7 Hertel, Sec. 21-13s-9e. Drlg. 160 ft.

Pan American Prod. Co. No. 14 Laws Realty Co., Sec. 30-13s-10e. T.D. 8,009 ft.; P.B. 7,170 ft.; made sqz. job 7,145-55 ft.; drlg. out cmt.

Pan American Prod. Co. No. 16 Laws Realty Co., Sec. 30-13s-10e. Drlg. sdy. sh. 6,508 ft.

Pan American Prod. Co. No. 19 Veeder, Sec. 11-13s-9e. T.D. 2,640 ft.; 7-in. csg. 2,630 ft.; W.O.S.R.

St. Mary Oil Co.'s No. 2 Achee, Sec. 21-13s-9e. T.D. 1,121 ft.; 7-in. csg. 1,108 ft.; I.P. 91 bbl. in 13 hrs.; pmpg.

Chenevville—Rapides Parish

Gulf Oil Corp. No. 1 Bickerstaff, Sec. 4-18s-2e. Drlg. sh. 5,640 ft.

Gulf Oil Corp. No. 1 C. U. Pope, Sec. 4-18-2e. T.D. 5,795 ft.; S.W. sd.; P.B.; sdtrkd.; T.D. 5,771 ft.; S.D.

Convent—St. James Parish

Continental Oil Co. No. 2 Colonial Sugars, Inc., Sec. 50-12s-4e. T.D. 10,012 ft.

Continental Oil Co.'s No. 2 Realty. P.B. T.D. 8,045 ft.; run tbg.

Choctaw—Iberville Parish

Standard of La. No. 1 Wilbert, Sec. 53-9s-11e. Loc.

Creole—Cameron Parish

Superior Oil Co.'s No. 8 State, Twp. 15s-8w. Drlg. sd.&sh. 1,700 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 24 Community, Sec. 31-10s-2e. T.D. 4,872 ft.; 7-in. csg. 4,844 ft.; perf. csg. 4,677-4,775 ft.; I.P. 552 B.P.D.; ¼-in. ck.

Humble O. & R. Co.'s No. 16 Gumbel, Sec. 36-10s-2e. Loc.

Kiva Oil Co. No. 1 Duplessis, Sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 23 State, Sec. 5-22s-16e. T.D. 7,268 ft.; R.B.; sdtrkd. 7,091 ft.; T.D. 7,152 ft.; rmg.

Edgerly Field—Calcasieu Parish

Emerson Oil Co. No. 14 Hunter, Sec. 21-9s-11w. T.D. 3,504 ft.; 5½-in. csg. 3,475 ft.; W.O.S.R.; I.P. 70 B.P.D.; pmpg.

Eola—Avoyelles Parish

Amerada Pet. Corp.'s No. 2 Glaze, Sec. 6-2s-3e. Drk.

Amerada Pet. Corp.'s No. 3 Irion, Sec. 6-2s-3e. Loc.

Amerada Pet. Corp.'s No. 4 C. B. Marchive, Sec. 6-2s-3e. Drlg. sh. 3,860 ft.

Amerada Pet. Corp.'s No. 5 C. B. Marchive, Sec. 6-2s-3e. Loc.

Amerada Pet. Corp.'s No. 1 White et al, Sec. 7-2s-3e. Loc.

Amerada Pet. Corp.'s No. 3 R. L. Whitlow, Sec. 6-2s-3e. Loc.

Amerada Pet. Corp.'s No. 4 Whitlow, Sec. 1-2s-2e. Loc.

Amerada Pet. Corp. No. 2 R. R. Iron, Sec. 6-2s-3e. T.D. 8,586 ft.; 5½-in. csg. 8,520 ft.

Amerada Pet. Corp. No. 3 Marchive, Sec. 6-2s-3e. Drlg. sh.&L. 7,162 ft.

Amerada Pet. Corp. No. 1 Merchants & Planters Bnk., Sec. 41-1s-3e. Loc.

Amerada Pet. Corp. No. 2 Whitlow, Sec. 6-2s-3e. T.D. 8,472 ft.; run csg.

J. Edward Jones' No. 1 Barrone. T.D. 8,715 ft.; abd.

Gulf Explin. Co. No. 5 Samuel Haas Est., Sec. 8-2s-3e. T.D. 8,584 ft.; 5½-in. csg. 8,584 ft.; perf. csg. 8,565-70 ft.; flwd. oil; went dead; S.D.

Geo. Lilly et al No. 1 Dent, Sec. 1-2s-2e. Drlg. sh. 3,442 ft.

Sid Richardson No. 3 State-Bayou Bouef, Sec. 6-2s-3e. Drlg. sh. 4,930 ft.

S. W. Richardson's No. 6 Haas Inv. Co., Sec. 7-2s-3e. Drlg. 900 ft.

Fausse Point—Iberia Parish

Texas Co. No. 6 State, Twp. 11s-8e. R.U.

Garden Island—Plaquemines Parish

Texas Co. No. 36 State, Sec. 38-23s-33e. Drlg. 4,796 ft.

Golden Meadows—La Fourche Parish

F. W. Bennett O. & R. Co.'s No. 1 Justillien Orgeron, Sec. 12-19s-22e. Cd. oil sd. 5,157-5,200 ft.; T.D. 5,675 ft.; 7-in. csg. 5,560 ft.; P.B. 5,476 ft.; stk. tbg.

Berkshire Oil Co.'s No. 3 J. Nicol, Sec. 2-19s-22e. Drlg. 500 ft.

Taylor Fithian's No. 1 Mrs. Jacking Lambas, Sec. 2-19s-22e. Loc.

Taylor Fithian's No. 1 Edw. J. Parra, Sec. 12-19s-22e. Drlg. 50 ft.

Golden Meadows Oil Co.'s No. 1 Collins Unit, Sec. 12-19s-22e. Drlg. sh.&shls. 2,565 ft.

Wm. Helis' No. 1 Gaspard & Rizau, Sec. 9-19s-22e. Drlg. sdy. sh. 6,158 ft.

M. H. Marr and R. A. Bristol No. 1 Church property, Sec. 2-19s-22e. T.D. 7,724 ft.; sdtrkd.; T.D. 9,007 ft.; P.B. and sdtrkd.; T.D. 2,652 ft.; T. sd. 2,647 ft.; 7-in. csg. 2,647 ft.; tstd. S.W. and oil; P.B. 2,000 ft.; sdtrkd.; T.D. 2,666 ft.; T.S. 2,648 ft.; tstg.

M. H. Marr & G. H. Vaughn No. 1 Adam Terrebonne, Sec. 9-19s-22e. Drk.

M. H. Marr and G. H. Vaughn No. 1 B. &D. Unit, Sec. 12-19s-22e. T.D. 9,050 ft.; sdtrkd. 5,050 ft.; drld. to 8,453 ft.; P.B. 8,291 ft.; sdtrkd.; drlg. wtr. sd. 9,285 ft.

Martex Pet. Corp. No. 2 Falgout Holding Co., Sec. 9-19s-22e. T.D. 8,500 ft.; 7-in. csg. 8,500 ft.; perf. csg. 8,148-66 ft.; tstd. S.W.; perf. csg. 8,152-60 ft.; I.P. 172 B.P.D.; 10/64-in. ck.

St. Mary Oil Co.'s No. 2 Choust, Sec. 12-19s-22e. R.U.

St. Mary Oil Co.'s No. 1 Unit No. 7, Sec. 9-19s-22e. T.D. 5,500 ft.; 5½-in. csg. 2,828 ft.

Terouche Oil Co.'s No 1 Rudolph Chermire, Sec. 12-9s-22e. T.D. 5,501 ft.; 7-in. csg. 5,501 ft.

Texas Co. No. 1 E. L. Deramee, Sec. 12-19s-22e. T.D. 7,958 ft.; 7-in. csg. 7,958 ft.; perf. csg. 7,912-53 ft.; I.P. 471 B. P.D.; ¼-in. ck.

Texas Co. No. 1 Falgout Holding Co., Sec. 9-19s-22e. Cd. sd.&sdy. sh., S.O.

7,895-7,935 ft.; T.D. 7,945 ft.; 7-in. csg. 7,928 ft.; perf. csg. 7,912-34 ft.; I.P. 434 B.P.D.; ¼-in. ck.
Texas Co.'s No. 3 L.L.&E., Golden Meadows, Sec. 78-19s-21e. T.D. 2,800 ft.
Texas Co. No. 2 La Terre, Sec. 6-20s-22e. T.D. 10,089 ft.; 7-in. csg. 10,085 ft.; perf. csg. 10,620-40 ft.; I.P. 355 B. P.D.; 7/32-in. ck.
Texas Co. No. 2 State-Catfish Lake, Sec. 3-20-21e. T.D. 10,250 ft.; 7⅝-in. csg. 2,903 ft.; drld. to 2,775 ft.; perf. 2,750-72 ft.; swbd. 50% oil; R.U. to pmp.
Texas Co. No. 3 State-Catfish Lake, Sec. 76-19s-21e. Loc.
Texas Co. No. 1 Theriot, Sec. 12-19s-21e. Drlg. sh. 6,975 ft.

Grand Bay—Plaquemines Parish

Gulf Oil Corp. No. 6-A Grand Prairie Lv. Dist., Sec. 17-20s-10e. T.D. 9,380 ft.; fsg.
Gulf Ref. Co. No. 3 State QQ, Sec. 31 19s-19e. Cg. shly. sd., O.S., 8,069 ft.
Texas Co. No. 1 State-Lookout Pass, Sec. 48-20s-18e. Loc.

Grand Lake—Cameron Parish

Amerada Pet. Corp. No. 1 Mallard Bay State, Sec. 12-13s-4w. Drlg. sd.&sh. 2,190 ft.
Superior Oil Co.'s No. 3 State. R.U.

Hackberry—Cameron Parish

Stanolind O. & G. Co.'s No. 1 Benson-Vincent, Sec. 29-12s-10w. Loc.
Gulf Oil Corp. No. 25-A Erwin, Sec. 18 12s-10w. Drlg.
Gulf Oil Corp.'s No. 26-A M. P. Erwin, Sec. 13-12s-10w. Drlg. clay 48 ft.
Stanolind O. & G. Co. No. 28-A Gulf fee, Sec. 30-12s-10w. T.D. 7,037 ft.; P.B. 5,704 ft.; sdtrkd.; 7-in. csg. 7,019 ft.; drlg. sh. 7,423 ft.
Superior Oil Co. No. 6 Benson-Vincent Sec. 30-12s-10w. T.D. 7,297 ft.; 5½-in. csg. 7,175 ft.
Texas Co. No. 27-B State, 623 ft. S. and 5,142 ft. E. of SE cor. Sec. 12-12s-10e in Twp. 12s-9w. Drlg. sh.&L. 7,461 ft.
Union Sulphur Co. No. 12 Doiron, Sec. 37-12s-10w. T.D. 8,064 ft.; P.B. 4,050 ft.; sdtrkd. 4,162 ft.; drlg. sh. 6,502 ft.

Horseshoe Bayou—St. Mary Parish

Texas Co.'s No. 3 State, Sec. 40-17s-9e. Drlg. sd.&sh. 4,636 ft.

Jefferson Island—Iberia Parish

Phillips Pet. Co. No. 1 Breaux, Sec. 41 12s-5e. T.D. 8,461 ft.; P.B.; sdtrkd 4,403 ft.; T.D. 9,721 ft.; run elec. sur.
Texas Co.'s No. 3 Jefferson Salt Mining Co., Sec. 58-12s-5e. Drlg. sh. 3,837 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 10 La Fourche Basin Lv. Dist., Sec. 2-18-25e. Drlg. 7,210 ft.

Jennings—Acadia Parish

Carter-Perrin & Brian No. 1 Martel, Sec. 47-9s-2w. T.D. 1,916 ft.; 6-in. csg. 1,862 ft.; T.A.
Glassell-Glassell No. 8 Trusher, Sec. 42-9s-2w. Loc.
Shell Oil Co., Inc., No. 7 Conover, Sec. 40-9s-2w. 5½-in. csg. 7,166 ft.; T.D. 7,704 ft.; C.O.
Stanolind O. & G. Co. No. 115 Crowley

LEGAL

United States Department of the Interior, General Land Office, Washington, D. C. Notice is hereby given that the 1913.99 acres in the producing Hugoton gas field in Ts. 31 and 32, R. 38; Ts. 32 and 35, R. 39; Ts. 32 and 33, R. 40, all south and west of the 6th P.M., Kansas, in Stevens and Morton Counties, and in T. 4., Rs. 14 and 15; Ts. 3, 4 and 6, R. 16, all north and east of C.M., Oklahoma, in Texas County; and 520 acres in the Holcomb gas field described as the SW¼ NE¼ Sec. 3, SW¼ Sec. 12 and N½ Sec. 15, T. 26 S., R. 35 W., 6th P.M., Kansas, are offered to the qualified bidder of the highest amount offered per acre as a bonus for a lease to the oil and gas deposits belonging to the United States, pursuant to Section 17 of the act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate shown in the lease form in General Land Office circular 1386. Sealed bids are to be submitted to the Secretary of the Interior, Washington, D. C., the envelope to be marked plainly "Bid—Hugoton and Holcomb gas fields lease sale," on or before noon on September 27, 1939. Full particulars governing the sale and conditions upon which the leases will be issued may be secured from the Commissioner of the General Land Office, Washington, D. C. The bid must describe the land and be accompanied by a certified check upon a solvent bank, or cash, for one-fifth of the amount of each bid, and a showing that the bidder is qualified to receive a lease (see section 7 of circular 1386). The remaining four-fifths of the bid, together with the annual rental in advance at the rate of $1.00 per acre, must be paid and a $5,000.00 corporate surety bond must be furnished prior to the issuance of the lease. Bidders are warned against violations of the provisions of section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. (Sgn) Fred W. Johnson, Commissioner.

Oil & Min. Co., Sec. 48-9s-2w. Drlg. sh. 1,562 ft.

Lafitte—Jefferson Parish

Texas Co. No. 14 Lafitte, Sec. 20-17s-24e. Loc.
Texas Co. No. 2-B Madison Realty Co. Sec. 19-17s-24e. T.D. 10,093 ft.; 7-in. csg. 10,090 ft.; perf. csg. 10,055-80 ft.; I.P. 1,351 B.P.D.; ⅜-in. ck.
Texas Co.'s No. 5 Madison Realty Co., Sec. 17-17s-4e. Loc.
Texas Co.'s No. 11 Rigolet Cooperative Fur Co., Sec. 29-17s-24e. Cg. oil sd. 9,872 ft.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 10 State, 1,320 ft. N of No. 3, in Lake. T.D. 3,208 ft. twisted off D.S.; sdtrkd. 2,940 ft.; cg. oil sd. 9,407 ft.

Lake Mongoulois—St. Martin Parish

Texas Co. No. 7 State, Sec. 10-10s-9e. T.D. 10,604 ft.; 7⅝-in. csg. 10,604 ft.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 27 State, Sec. 7-23s-18e. 10¾-in. csg. 1,484 ft.; T.D. 5,233 ft.; salt; T. salt 4,718 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 W. E. Mont, Sec. 32-19s-19e. Loc.

New Iberia—Iberia Parish

Acadian Prod. Co. No. 1 Weeks-Sanders, Sec. 51-12s-7e. T.D. 1,277 ft.; 7-in. csg. 1,205 ft.; perf. csg. 1,205-10 ft.; R.U. to pmp.
Wm. Helis' No. 14 Bernard, Sec. 54-12s-7e. Loc.
Wm. Helis No. 9 Bolivar, Sec. 56-12s-7e. S.D. 3,402 ft., salt; P.B.; sdtrkd.; drlg. sh. 2,768 ft.
Wm. Helis No. 7 J. E. Schwing, Sec. 56 12s-7e. Drlg. sdy. sh.&L. 7,906 ft.
Texas Co. No. 2 Bryant, Sec. 25-12s-7e R.U.
Texas Co.'s No. 11 J. P. Duhe, Sec. 26-12s-7e. Drlg. sh. 2,168 ft.
Texas Co. No. 1 Frances Compton, Sec 71-12s-7e. T.D. 9,034 ft.; 7-in. csg. 8,985 ft.; tstg.
Texas Co. No. 1 Anna B. Schwing, Sec 71-12s-7e. T.D. 8,993 ft.; 7-in. csg. 8,993 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 2 Staker, Sec 33-8s-1e. T.D. 8,580 ft.; T. sd. 8,564 ft.; 7-in. csg. 8,580 ft.; perf. csg. 8,577-77.5 ft.; flwd. 35 B.P.D.; ⅛-in. ck.; killed.

North Tepetate—Acadia Parish

Atlantic Ref. Co. No. 5 Klumpp, Sec. 7 7s-1w. T.D. 9,482 ft.; 5¼-in. csg. 9,195 ft.; tried to blow out; P.B. 9,057 ft.; I.P. 16 bbl. in 2 hrs.; ¼-in. tbg.

Paradis—St. Charles Parish

Texas Co. No. 2 L.L.&E. Paradis, Sec. 6-14s-20e. Drlg. sh. 618 ft.

Port Barre—St. Landry Parish

Gulf Oil Corp.'s No. 15 Wilson & Cochran, Sec. 4-6s-5e. Drlg. sdy. sh. 3,500 ft.
Pan American Prod. Co. No. 7 Cormier Sec. 4-6s-5e. T.D. 4,933 ft.; P.B. 3,150 ft.; T.D. 4,770 ft.; P.B.; sdtrkd.; drlg. L. 4,927 ft.
Pan American Prod. Co. No. 8 Cormier Sec. 4-6s-5e. R.U.
Y. D. Spill No. 1 Gaudet, Sec. 4-6s-5e S.D. 4,700 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 39 Orleans Lvee Bd., Sec. 13-8s-15e. T.D. 8,103 ft.; 7-in. csg. 8,099 ft.; perf. csg. 7,890-7,905 ft.; I.P. 202 B.P.D.; ⅛-in. ck.
Humble O. & R. Co. No. 40 Orleans Lv. Bd., Sec. 13-18s-15e. M.I.M.

Quarantine Bay—Plaquemines Parish

Gulf Ref. Co. No. 5-A Orleans Lv. Bd., Sec. 7-19s-17e. Drlg. sh. 8,173 ft.
Gulf Oil Corp.'s No. 3-A Plaquemines Ld. Co., Sec. 7-19s-17e. Loc.
Gulf Oil Corp. No. 9 State QQ, Sec. 18-19s-17e. Loc.
Gulf Oil Corp. No. 13 State, Sec. 8-19s-17e. T. sd. 8,503 ft.; T.D. 8,519 ft.; run 7-in. csg.

Sorrento—Ascension Parish

Sorrento Synd. No. 1 L. L. Bernard. Sec. 27-10s-4e. S.D. 1,717 ft.

South Houma—Terrebonne Parish

Shell Oil Co., Inc., No. 1 Duplantis, Sec. 74-18s-18e. S.D. 10,487 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 2 Calcasieu Natl. Bnk., Sec. 35-10s-4w. Drlg. sd.&L. 7,392 ft.
Union Sulphur Co. No. 1 Joe Sturdivant Sec. 36-10s-4w. Drlg. sh.&L. 9,642 ft.

Valentine—La Fourche Parish

Wm. Helis' No. 5 Valentine Sugars, Inc., Sec. 2-17s-20e. 10¾-in. csg. 1,632 ft.
Pan American Prod. Co. No. 3 Ducas-Abribat. Drlg. sh. 3,913 ft.
Pan American Prod. Co.'s No. 21 Harang, Sec. 9-17s-20e. Bldg. drk.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co.'s No. 6 Buras Lv. Bd., Sec. 27-21s-30e. Drlg. sdy. sh. 2,475 ft.

Villa Platte—Evangeline Parish

Continental Oil Co.'s No. 4 Orisedeville, Sec. 46-3s-2e. Drlg. sh. 6,632 ft.
Continental Oil Co.'s No. 5 Ludeau-Haas, Sec. 45-3s-2e. Drlg. sh. 6,696 ft.
Continental Oil Co.'s No. 2 McDaniel, Sec. 45-3s-2e. Drlg. sh. 7,740 ft.
Continental Oil Co. No. 2 Corell, Sec. 36-3s-2e. Drlg. sh. 9,523 ft.
Continental Oil Co. No. 4 Ludeau-Haas, Sec. 45-3s-2e. T.D. 9,044 ft.; I.P. 146 B.P.D.; ⅛-in. ck.
Continental Oil Co. No. 3 Pitre, Sec. 44-3s-2e. T.D. 9,050 ft.; I.P. 196 B.P.D.; ⅛-in. ck.
Continental Oil Co. No. 4 Vidrine, Sec. 46-3s-2e. T.D. 9,095 ft.; I.P. 276 bbl. in 13 hrs.; ⅛-in. ck.

West Gueydan—Vermilion Parish

Magnolia Pet. Co.'s No. 2 A. Cormier, Sec. 5-12s-2w. Drk.
Magnolia Pet. Co. No. 3 J. B. Ferguson, Sec. 5-12s-2w. 9⅝-in. csg. 1,779 ft.; 7-in. csg. on bttm.; T.D. 7,170 ft.; perf. csg. 6,966-78 ft.; I.P. 779 bbl. 43.2-gr. oil; ¼-in. ck.

West Lake Verret—St. Mary Parish

Shell Oil Co., Inc., No. 1 Michel, Sec. 1-14s-12e. T.D. 8,967 ft.; fsg.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 Raymond Hebert, Sec. 6-9s-5w. Drlg. sh. 9,066 ft.
Union Sulphur Co. No. 1 M. F. Johnson, Sec. 12-9s-6w. T.D. 9,500 ft.; P.B. 8,612 ft.; sdtrkd.; T.D. 8,905 ft.; 7-in. csg. 8,905 ft.; T.D. 9,500 ft.; P.B. 9,488 ft.; perf. csg. 9,475-87 ft.; swbd. S.W.; perf. csg. 9,400-10 ft.; showed S.W.; swbg.
Union Sulphur Co. No. 3 Mrs. O'Miller, Sec. 7-9s-5w. Drk.

S. LOUISIANA WILDCATS

Acadia Parish

Mareaux Oil Corp. No. 2 J. E. Settig, Sec. 17-7s-1w. T.D. 1,180 ft.; S.D.; T.A.
Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. M.I. rig.

Allen Parish

Bel Oil Co. No. 2 J. A. Bell Est. (Blue Springs). Drk.

Avoyelles Parish

C. B. Bunte No. 1 Hines Tie & Timber Co., Sec. 24-3n-2e. 10-in. csg. 475 ft. T.D. 5,695 ft.; abd.; T. Wlx. 5,172 ft.
Carter & Rubsamen's No. 1 I. E. Boyette, Sec. 28-3n-5e. R.U.
G. C Koch et al No. 1 Purdy Hess Lbr. Co., Sec. 25-2n-3e. O.W.D.D.; T.D. 6,054 ft.; abd.

Beauregard Parish

Atlantic Ref. Co. No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.

Calcasieu Parish

C. L. Arnette's No. 1 Arthur Welch, Sec. 19-10s-12w. S.D. 130 ft.
La.-Gulf Coast Drlg. Co. No. 1 Langdon, Sec. 13-10s-13w. S.D. 1,890 ft.
Humble O. & R. Co. No. 2 Edgewood, Sec. 32-7s-10w. Drlg. sh. 4,359 ft.

Iberville Parish

Housh & Thompson No. 1 Kessler & Folse, Sec. 40-11s-13e. S.S.O.; drlg. sh. 10,792 ft.

Jefferson Parish

California Co. No. 1 Adam Rutley, Sec. 2-16s-23e. 20-in. csg. 163 ft.; 13⅜-in. csg. 1,980 ft.; T.D. 7,360 ft.; rmg.
Continental Oil Co. No. 1 Bernstein, Sec. 2-16s-23e. R.U.

Jeff Davis Parish

Union Sulphur Co. No. 2 H. B. Tietje, Sec. 36-2s-4w. Drlg. sdy. sh. 8,358 ft.

La Fourche Parish

Gulf Oil Corp. No. 2 Grandison, Sec. 21-20s-23e. 13⅜-in. csg. 2,090 ft.; T.D. 2,150 ft.
J. Perry Scranton No. 2 Martinez, Sec. 132-15s-17e. T.D. 10,515 ft.; 5-in. csg. 10,150 ft.; perf. csg. 10,124-36 ft.; flwd. oil and S.W.; perf. csg. 10,128-31 ft.; flwd. 35 B.O.; run tbg.
Tide Water Asso. Oil Co. No. 1 Delta Farms, Inc., Sec. 6-17s-23e. R.U.

Livingston Parish

Humble O. & R. Co.'s No. 1 Great Southern Lbr. Co., Sec. 27-7s-5e. Drlg. sdy. sh. 2,773 ft.

Orleans Parish

W. T. Burton No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 10,394 ft.; 5½-in. csg. 10,274 ft.; perf. csg. 10,164-69 ft.; swbd. wash wtr.; drld. out to T.D. 10,300 ft.; perf. csg. 10,285-94 ft.; swbd. S.W.; P.B. 10,175 ft.; swbd. oil and showed little gas; reperf. csg. 10,116-24 ft.; well made one head, blowing wash wtr., trace of oil; P.B. 10,150 ft.; acd.; swbg.
W. T. Burton No. 3 L.&N.R.R., Sec. 25-11s-14e. Loc.
W. T. Burton No. 2 State-Lake Pontchartrain, Twp. 10s-10e. Driv. piling.
W. T. Burton No. 3 State-Lake Pontchartrain, Sec. 18-11s-15e. Loc.
W. T. Burton No. 4 State-Lake Pontchartrain, Sec. 18-11s-15e. Loc.

Plaquemines Parish

Gulf Oil Corp. No. 8 State P.P., Sec. 18-23s-31e. 13⅜-in. csg. 1,949 ft.; T.D. 8,390 ft.; run 9⅝-in. csg.
Texas Co. No. 1 State-Bastian Bay, Sec. 43-20s-28e. 10¾-in. csg. 1,924 ft.; drlg. sh.&L. 8,196 ft.

Rapides Parish

Smith & Aarnes No. 1 Eota Realty, Sec. 12-4n-3e. Drk.

St. Bernard Parish

Carter, Molero & Brian, Sec. 129-14s-14e. Drk.
Gulf Ref. Co. No. 4-State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,622 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; T.D. 10,528 ft.; 7-in. csg. 10,494 ft.; mlig. on csg. 10,310 ft.

St. John the Baptist Parish

Pan American Prod. Co. No. 1 Mill, Sec. 12-11s-7e (LaPlace prospect). 10¾-in. csg. 2,837 ft.

St. Martin Parish

Continental Oil Co.'s No. 1 Leveret, St. John Plantation, Sec. 42-10s-7e. O.W.D.D. T.D. 9,032 ft.; 9⅝-in. csg. 2,051 ft.
Wm. Helis' No. 1, Levert, St. John Plantation, Sec. 33-9s-7e. Drlg. sd.& grvl. 295 ft.
Shell Oil Co., Inc., No. 1 Iberville Ld. Co., Sec. 86-8e-7s. T.D. 2,650 ft.
Texas Co. No. 12 St. Martin, Sec. 21-8s-7e. T.D. 9,011 ft.; 7⅝-in. csg. 8,617 ft.; O.S. 8,359-8,442 ft.; perf. csg. 8,570-90 ft.; flwg. at rate of 302 B.P.D., 12/64-in. ck.; W.P. 1,225 lb.; grv. 37.3.

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. S.D. 2,600 ft.

Terrebonne Parish

Continental Oil Co. et al's No. 1 Peters, Sec. 32-19s-15e. Loc.
Shell Oil Co., Inc., No. 1-A Peters, Sec. 47-19s-19e. Drlg. sh. 5,976 ft.
Texas Co. No. 3 State-Coon Point, Twp. 23s-14e. 10¾-in. csg. 1,860 ft.; drlg. sh. 3,450 ft.

Vernon Parish

W. T. Burton No. 1 W. T. Burton Mineral fee, Sec. 32-1n-6w. S.D. 9,065 ft.
Pan American Prod. Co.'s No. 1 Anderson-Post Lbr. Co., Sec. 27-2n-11w. Loc.

LEGAL

United States Department of the Interior, General Land Office, Washington, D. C. Notice is hereby given that leases of the oil and gas deposits in the following lands in the State of Louisiana are offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of section 17 of the leasing act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in circular 1386, at a sale to be held in the Federal Court Room, Post Office Building, Shreveport, Louisiana, at 10:00 o'clock on September 27, 1939: Carterville field, lot 2 Sec. 2, lot 4 Sec. 4 and lots 3 and 4 Sec. 5, T. 22 N., R 11 W., SE¼ NW¼ Sec. 31, T. 23 N., R. 11 W., La.M., 99.77 acres; Rodessa oil and gas field, SW¼ NE¼ Sec. 2, T. 23 N., R. 16 W., La.M., 27.96 acres; Simsboro gas field, E½ NW¼ Sec. 9, T. 17 N., R. 4 W., La.M., 80 acres; Shongaloo oil and gas field, NE¼ SW¼ Sec. 7, T. 22 N., R. 9 W., La.M., 38.42 acres; Lake Bistineau gas field, S½ SW¼ Sec. 18, NW¼ SE¼ Sec. 22, T. 16 N., R. 10 W., La.M., 120 acres; Elm Grove oil and gas field, lots 6, 7 and 8 Sec. 36, T. 16 N., R. 12 W., La.M., 48.52 acres; Pine Island oil field, E½ NE¼ Sec. 10, T. 21 N., R. 15 W., La.M., 79.94 acres; Vivian oil and gas field, SE¼ SE¼ Sec. 28, T. 22 N., R. 15 W., La.M., 39.98 acres; Caddo oil and gas field, Unit No. 1—S½ NE¼, W½ SE¼ Sec. 31, T. 20 N., R. 15 W., 160 acres, Unit No. 2—lot 3 Sec. 3, lots 3, 4, 5, Sec. 4, T. 20 N., R. 16 W., 37.79 acres, Unit No. 3—lots 5 and 6 Sec. 9, lots 7, 9, 10 Sec. 10, lots 1 and 2 Sec. 15, lot 1 Sec. 16, T. 20 N., R. 16 W., 176.20 acres, Unit No. 4—lot 1 Sec. 12, lot 1 Sec. 13, T. 20 N., R. 16 W., 49.69 acres, Unit No. 5—Sec. 20, all (fractional), T. 20 N., R. 16 W., 37.83 acres, Unit No. 6—lots 1 and 3 Sec. 32, T. 20 N., R. 16 W., 91.56 acres, Unit No. 7—lot 1 Sec. 25, lots 1 and 2 Sec. 36, T. 20 N., R. 16 W., 22.71 acres, Unit No. 8—SE¼ Sec. 9, T. 21 N., R. 16 W., 160.20 acres, Unit No. 9—E½ SE¼ Sec. 11, N½ SW¼, NW¼ SE¼ Sec. 12, T. 21 N., R. 16 W., 200.44 acres, all La.M. Two or more units may be consolidated in a single lease to the same qualified bidder, provided the acreage does not exceed the maximum prescribed by law. The successful bidder must deposit on the day of the sale a certified check on a solvent bank, or cash, for one-fifth of the amount of each bid and file the showing of qualifications to receive a lease required by section 7 of General Land Office Circular 1386. The remaining four-fifths, together with the annual rental in advance at the rate of $1 per acre, must be paid, and a $5000 corporate surety bond must be furnished, prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. (Sgn) Fred W. Johnson, Commissioner.

TEXAS

Week Ending September 9

GULF COAST FIELDS

Old Ocean—Brazoria County

Harrison & Abercrombie No. 6 Armstrong-fee, Polly-Chance Sur. Drlg. sh. 7,686 ft.

Harrison & Abercrombie No. 2 Augsburger, Chas. Breen Sur. Drlg. sd.&sh. 9,850 ft.

Harrison & Abercrombie No. 1 Grimes, C. Breen Sur. T.D. 10,464 ft., sd.&sh.

Mid-Continent Pet. Corp. No. 2 Chenault, C. Breen Sur. T.D. 10,400 ft.; tstg.

Sun Oil Co. No. 2 Borsodi, C. Breen Sur. 9⅝-in. csg. 7,005 ft.; drlg. sh.&L. 8,320 ft.

Sun Oil Co. No. 2 Campbell, Chas. Breen Sur. T.D. 10,409 ft., sh.&L.

West Columbia—Brazoria County

Mike Hogg No. 3 Hogg-Hamman, Martin Varner Sur. T.D. 1,915 ft.; R.U. to pmp.

Cedar Point—Chambers County

Standard Oil Co. of Texas' No. 55-118 State. Drlg. sh. 5,830 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 2 Hoffman, T.&N.O. Sur. No. 131. T.D. 8,400 ft.; W.O.C.

Garwood—Colorado County

Davis & Co., Inc., No. 1 J. R. McLane, I.&G.N. Sur. 41. Drlg. sh. 5,120 ft.

Big Creek—Fort Bend County

Merrimac Oil Corp. No. 1 George, B. Wickson Sur. (SW flank). Spd. and S.D.

Thompson—Fort Bend County

J. H. Blaffer No. 1 Davis, Robt. Peebles Sur. T.D. 5,400 ft.; rng. 5½-in. csg.

Caplen—Galveston County

Sun Oil Co. No. 1 Zinn & Forman, S. F. Hughes Sur. T.D. 7,583 ft.; fsg.

Dickinson—Galveston County

Pure Oil Co. No. 1 R. S. Wooten Est., T. W. Johnson Sur. (S. Dickinson area). Drlg. sh. 8,786 ft.

League City—Galveston County

Phillips Pet. Co. No. 1 Dugan, S. F. Austin Sur. T.D. 10,187 ft.; 5½-in. csg. 9,950 ft.; perf. csg. 9,226-30 ft.; flwg. 8 B.F.P.H.; tstg.

Phillips Pet. Co. No. 1 Dr. O. Patton (1 mi. E of production). Perf. csg. 9,177-97 ft.; flwd. S.W.; sqzd. perf.; W.O.C.

Phillips Pet. Co.'s No. 3 Stewart Title Guaranty Co., S. F. Austin Sur. R.U.

Phillips Pet. Co.'s No. 4 Stewart Title Guaranty Co., S. F. Austin Sur. Loc.

Phillips Pet. Co. No. 1 Wimhurst (NW extension). Cg. 9,020 ft.

Bammel—Harris County

H. M. Harrell's No. 1 Lillian B. Polley, C. G. McLean Sur. T.D. 6,265 ft.; comp. as gas dist. well.

Clear Lake—Harris County

Humble O. & R. Co.'s No. 13-C Humble-West, J. Roth Sur. Drlg. sh.&L. 4,711 ft.

Humble O. & R. Co. No. 14-C Humble-West, J. Lindsay Sur. T.D. 1,038 ft.; W.O.C.

Stanolind O. & G. Co.'s No. 1 Coulter, Wm. Doble Sur. Loc.

Clinton—Harris County

Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.

Fairbanks—Harris County

Union Prod. Co. No. 1 H. H. Rudley, T. M. Dorsett Sur. (North Houston area). Cmtd. 13⅜-in. csg. 1,477 ft.; rec. oil and brksh. wtr. on D.S.T. 7,015-24 ft.; tstd. S.W. and gas 7,016-24 ft.; T.D. 7,251 ft.; perf. csg. 7,015-24 ft.; I.P. 112 B.P.D.; ¼-in. ck.

Union Prod. Co. No. 10 Whitehead-Rash-Phillips, Wiley S. Powell Sur. T.D. 7,224 ft.; T.S. 7,208 ft.; perf. csg. 7,208-24 ft., flwd. oil and wash wtr.; tstg.

Friendswood—Harris County

Humble O. & R. Co.'s No. 9 Herman Hospital, T. Choate Sur. Drlg. sh. 3,278 ft.

Humble O. & R. Co.'s No. 1 M. A. Pendarvis, Thos. Choate Sur. Cg. 6,054 ft.

Mykawa—Harris County

McDannald Oil Co.'s No. 1 Schmeltz, R. Boatright Sur. R.U.

South Houston—Harris County

Stanolind O. & G. Co. (Commerce) No. 1 O. R. Staitl, Callahan & Vince Sur. T.D. 7,572 ft.; cmtd. 7-in. protection csg.; T.D. 9,470 ft.; perf. csg. 7,553-65 ft.; flwd. oil, gas, and S.W.; killed; perf. csg. 7,548-58 ft.; swbd. S.W.; P. B. 4,100 ft.

Fannett—Jefferson County

Gulf Oil Corp.'s No. 12 Burrell, W. H. Smith Sur. Drlg. sh. 1,710 ft.

La Belle—Jefferson County

Sun Oil Co. No. 5 Broussard-Hebert, T. &N.O. Sur. No. 207. T.D. 8,710 ft.; perf. csg. 8,685-90 ft.; flwd. S.W.; made sqze. job; prep. to test.

Lovells Lake—Jefferson County

Humble O. & R. Co.'s No. 9 Broussard, C. Hillebrandt Sur. Drlg. sh. 2,820 ft.

Humble O. & R. Co. No. 3 Todd, Wm Carr Sur. T.D. 7,817 ft.; P.B. 7,725 ft.; tstg.

Humble O. & R. Co. No. 2 W. C. Turner, Wm. Carr Sur. Rigging.

Stanolind O. & G. Co.'s No. 1 B. A. Steinhagen, Wm. Carr Sur. Loc.

South China—Jefferson County

Magnolia Pet. Co. No. 1 Broussard, H.& T.C. Sur., Sec. 18. T.D. 7,826 ft.; oil sd. 7,795-7,807 ft.; perf. csg. 7,803-10 ft.; flwd. 37 B.F.P.H.; various cks.; 90% dist., 10% S.W.; killed; reperf. csg. 7,805-08 ft.; tstg.

Esperson—Liberty County

General Crude Oil Co.'s No. 6-B Esperson, A. McNeil Sur. Drlg. sh. 4,830 ft.

General Crude Oil Co.'s No. 8-B Esperson, A. McNeil Sur. Drlg. sh. 1,637 ft.

Hull—Liberty County

Gulf Oil Corp. No. 115 Phoenix Dev. Co., J. Devore Lge. (SE flank deep test). Drlg. sh.&L. 6,386 ft.

Hamman—Matagorda County

J. M. Copeland No. 1 G. L. Butler, J. T. Belknap Sur. Loc.

Van Vleck—Matagorda County

Skelly Oil Co. No. 5 Henry Rugeley, I.&G.N. Sur. T.D. 8,500 ft.; 5½-in. csg. 8,500 ft.

Orange—Orange County

John Mayo No. 1 M. J. Williams, Dyson Sur. R.U.

Port Neches—Orange County

Texas Co. No. 16 Kuhn, M. E. Hall Sur. Drlg. sh. 1,820 ft.

Ace—Polk County

Dick Schwab No. 1-C Kirby-West Lbr. Co., G. A. Thompson Sur. Loc.

Shell Oil Co., Inc.'s No. 1 Kirby-West Lbr. Co., G. S. Thomas Sur. Drlg. sh. 1,820 ft.

Segno—Polk County

Gulf Oil Corp. No. 4 Quinn, A. Morales Sur. R.U.

Gulf Oil Corp.'s No. 1 W. G. Wing, I.& G.N. Sur. 15. Drlg. sh. 8,110 ft.

Gulf Oil Corp.'s No. 20 Wing, I.&G.N. Sur. 14. Drlg. sh.&L. 6,836 ft.

Gulf Oil Corp.'s No. 22 Wing, I.&G.N. Sur. 15. Loc.

Humble O. & R. Co. No. 15-B Kirby Lbr. Co., P. Garcia Sur. T.D. 8,179 ft.; run csg.

Humble O. & R. Co.'s No. 16 B. X. Kirby Lbr. Corp., P. Garcia Sur. Loc.

Spurger—Tyler County

Republic Prod. Co.'s No. 24 fee, N. Hurd Sur. Drlg. sh. 4,310 ft.

Republic Prod. Co.'s No. 25 fee, N. Hurd Lge. Drlg. sh. 1,930 ft.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Byran Mound). M.I.M.

Hamman Expitn. Co. No. 1-B Darrington, State Prison Farm, F. Bingham Sur. Rlg.

Glenn McCarthy's No. 1 J. C. Carr, J. D. Valderas Sur. T.D. 10,124 ft.; fsg.

Glenn McCarthy No. 1 Houston Farm Dev., James F. Perry and E. Austin Sur. No. 7. T.D. 10,380 ft.; set 7-in. csg.; well is reported to be showing oil under small gas pressure; no details; killed well; to reperf. csg.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.

Edwards Drlg. Co.'s No. 1 Sloan, G. B. Jamison Sur., Turtle Bay extension area. R.U.

Salt Dome Oil Corp. No. 1 Ira R. Williams, James Grant Sur. (Cotton Lake area). T.D. 6,515 ft.; 5¼-in. csg. 6,515 ft.; perf. csg. 6,506-11 ft.; I.P. 105 B. P.D.; ¼-in. ck.

J. R. Turnbull et al No. 1 W. C. Shepherd, R. A. Porter Sur. T.D. 6,468 ft.; 7-in. csg. 6,429 ft.; flwd. oil, gas, and wash wtr.; sanded up; sdtrkd. 6,463 ft.; T.D. 6,700 ft.; P.B. to test 6,429-65 ft.

Colorado County

Cockburn Oil Corp. No. 1 R. W. Ferrs, H. Chrisman Sur. Loc.

Strake Pet. Co. No. 1 Ned Burford, E. Tumlinson Sur. 10¾-in. csg. 998 ft.; drlg. sh. 5,950 ft.

Fort Bend County

H. C. Cockburn No. 1 Dzierzanowski, Emma Meyer Sur. 8. 10¾-in. csg. 1,058 ft.; T.D. 7,190 ft.; heaving sh.

H. R. Cullen No. 1 Booth, Wickson Sur., S flank Big Creek. Cg. sh. 6,020 ft.

Lloyd Farr et al No. 1 Beard, H.&T.C. Sur. 118. S.D. 2,110 ft.

Superior Oil Co. No. 1 Kelso, G. Barth Sur. Drlg. sh. in sdtrkd. hole 3,672 ft.

Woodland Oil Co. No. 1 Herietta Berg et al, H.&T.C. Sur., Sec. 25. T.D. 7,410 ft.; 9⅝-in. csg. 7,391 ft.; P.B. 7,269 ft.; top junk 7,248 ft.; set whpstk. 7,239½-47 ft.; unable to sdtrk.; T.A.

Harris County

Selby O. & G. Co. No. 1 East Texas Oil Co., Victor Blanco Sur. 10¾-in. csg. 1,495 ft.; drlg. sh. 7,020 ft.

L. R Wilhite et al No. 1 Houston-Harris Co. Ship Channel, Nav. dist., Ezekiel Thomas Sur. 13-in. csg. 388 ft.; drlg. sh. 2,026 ft.

Jackson County

Cron & Gracey's No. 2 Heard, M.&C. Sur. 13. Drlg. 4,260 ft.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.

Montgomery County

A. T. Grabowski et al's No. 1 Gay, Wm. Landrum Sur. Drlg. sh. 1,450 ft.

Orange County

American Eagle Oil Co. No. 2 Geo. Pell, Geo. A. Patillo Sur. Loc.

Polk County

Patrick-Tyrell Drlg. Co. No. 1 O. L. Jackson, C. Devore Sur. Loc.

San Jacinto County

F. J. Hynes No. 1 Foster Lbr. Co., M. Brown Sur. Rig.

F. J. Hynes No. 2 Foster Lbr. Co., M. Finch Sur. Loc.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, W. Lightfoot Sur. M.I.R.

Wharton County

Humble O. & R. Co.'s No. 1 Joe Schwartz, T. M. Blake Sur. 10¾-in. csg. 1,432 ft.; drlg. sh. 5,760 ft.

Dr. T. M. Neal No. 1 fee, Elisha Flack Sur. Loc.

W. Stewart Boyle et al's No. 1 Britton, F. Page Sur., N of Louise field. T.D. 5,767 ft.; sdd.

Texas Co. No. 1 C. Peters, E.T.R.R. Sur. No. 101 (Hilje area). 10¾-in. csg. 1,163 ft.; T.D. 5,300 ft.; run 5½-in. csg.; 11-min. D.S.T. 5,231-59 ft.; tstd. 590 lb. press.; rec. 180 ft. fluid, 90 ft. oil, 90 ft. S.W., trace of oil; P.B. 5,243 ft.; perf. csg. 5,237-42 ft.; swbg. wash wtr.; no show oil or gas; reperf. csg. 5,220-30 ft.; flwg. est. 24 B.F.P.D.; 7/64-in. ck.; 95% oil, 5% wash wtr.; gr. 25; T.P. 1,360 lb.; C.P. 1,680 lb.

S. W. TEXAS WILDCATS

Bastrop County

Ralph Ogden No. 1 Wolf, S. Wolfenberger Sur. Drlg. Buda L. 2,800 ft.

Bell County

G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. S.D. 1,208 ft.

Bexar County

C. A. Smith's No. 1 W. G. Schuwirth, Jose Antonio de la Garza Sur. Drlg. 675 ft.

J. A. Tarver's No. 1 Florence Lam, Manuel de Luna Sur. 3. Drlg. sh. 976 ft.

Caldwell County

Dr. J. F. Atha's No. 1 G. W. Carter, Gideon Pace Sur. Spd.

Calhoun County

Continental Oil Co. No. 1 Betty Rosen, Juan Carro Lge. (2⅛ mi. W of Indianola). T.D. 6,652 ft.; abd.

Coronado Corp. No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. Spd.

Cameron County

Sal Vieja Oil Co. et al's No. 2 Gatewood Newberry, San Martin gr. Spd.

De Witt County

Marshall Purvis No. 1 Afflerback, L. W. Criswell Sur. Drlg. sh. 6,416 ft.

Duval County

W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. No. 73. Loc.

Clark & Cowden's No. 1 Lucille Gruy, N. Gussett Sur. 28. Drlg. sh. 2,116 ft.

Sam Cunningham et al's No. 1 E. A. Lopez, P. Caballero Sur., Sec. 14. Drlg. sh. 2,090 ft.

Lanning & Coffield's No. 1 R. Lopez, J. Poitevent Sur. 455. Drlg. sh. 1,767 ft.

Magnolia Pet. Co.'s No. 1 D.C.R.C., B.S. &F. Sur. 262. T.D. 2,855 ft.; abd.

South Coast Oil Corp., et al's No. 1 F. G. Garcia, H.&G.N. Sur. Loc.

Standard Oil Co. of Texas' No. 1 Jack Casey, San Pedro de Charco Redondo gr. Drlg. sdy. clay 410 ft.

Taylor Ref. Co. No. 1 Parr, S.A.&M.G. Sur. 117. Cg. 4,785 ft.

Edwards County

R. G. Mitchell No. 2 Turney, C,C.S.D. and R.G.N.G. Sur., Sec. 164. Loc.

Falls County

M. A. Hays No. 1 Wooten, James Powell Sur. T.D. 2,138 ft.; P.B. 2,133 ft.

J. Shaunfield No. 1 Barganier, J. M. Graham Sur. T.D. 1,195 ft.; Buda L.; S.S.O.; waiting on csg.

Goliad County

D. C. Matthews et al's No. 1 G. J. Swickheimer, Cuadrilla Irrg. Sur. 10-in. csg. 306 ft.; drlg. ahd.

John Mayo No. 1 Swickheimer, Sec. 20, Cuadrillo subd., Wm. Patterson Sur. 9 mi. E of Goliad). Loc.

Gonzales County

E. E. Young No. 1 Moore, D. O. Warren Sur. Drlg. rk. 983 ft.

Guadalupe County

Burton-Garvin & Womack's No. 2 Henry Weil, E. de Los Santos Coy Sur. No. 93. R.U.

Dees et al No. 1 Broadnax, John C. King Sur. T.D. 2,273 ft.; abd.

Hays County

B. C. Mann et al No. 1 Reeder, R. Vaughn Sur. S.D. 1,250 ft.

Hidalgo County

San Juan Oil Co. No. 1 J. C. Kelly, J. C. Kelly subd., Antonio Velasco Sur., Porc. 70. Rig.

Jim Hogg County

W. L. Goldston's No. 1 E. G. Canales, Marcelo Ynojosa gr. Drlg. sh. 4,752 ft.

C. A. Nibert et al's No. 1 Yeager Sur. 20. S.D. 815 ft.

T. S. Seiblenski's No. 1 Down Royalty Corp., El. Javali gr. Cg. sh. 1,730 ft.

Jim Wells County

Austin Pet. Co. No. 1 H. M. Reed (8 mi. NW Orange Grove), J. Poitevent Sur. Cmtd. surf. pipe 190 ft.; S.D. 210 ft.

Tom Graham et al's No. 1-A Shaffer, Stanley Welch Sur. Drlg. sdy. sh. 5,476 ft.

Magnolia Pet. Co. No. 1 J. O. Maun, Lot 6, Blk. 11. 7-in. csg. 6,811 ft.; T.D. 7,233 ft.; 5½-in. csg. 7,233 ft.; perf. csg. 7,219-30 ft.

Magnolia Pet. Co.'s No. 1 E. H. Stolze et al, Los Olmos y Loma Blanca gr., Lot 16, Blk. 10. Loc.

Wm. Spice's No. 1 J. Schallert, Los Presenos de Abajo gr. T.D. 5,611 ft.; abd.

Rodney DeLange et al's No. 1 Maggie McNeill, Benito Lopez de Jean gr. R.U.

Royal O. & G. Co.'s No. 1 F. Garcia, La Trinidad gr. Drlg. sh. 4,398 ft.

Kendall County

C. M. Dewey No. 2 Seidensticker, R. Davis Sur. No. 20. S.D. 714 ft.

Kimble County

W. S. Kelly No. 1 A. L. Bierchwale, D. Lloyd Sur. S.D. 135 ft.

C. H. Wolff & M. C. Moore No. 1 W. J. Wilkinson, Brook & Burleson Sur., Sec. 24. S.D. 20 ft.

Kleberg County

Pure Oil Co.'s No. 1 State, Tr. 171 (Bird Island field). Loc.

La Salle County

S. J. V. Oil Co.'s No. 1 Louis Yeager, C Blk. 4, Sec. 4. Drlg. 455 ft.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. Pmpd. 100 B.F.; 36 hrs.; 3 bbl. oily emulsion; cd. L. 6,461-96 ft.; T.D. 6,571 ft.; S.D.

Live Oak County

Northworthy Proc. Co. et al's No. 1 Knight, T. R. Johnson Sur. R.U.

Salviejo Oil Co. No. 1 Reser, Amos Moore Sur. Sd. 2,128-48 ft.; cmtd. 7-in. csg. 2,129 ft.; T.D. 3,010 ft.; run lnr. to approx. 2,900 ft.; perf. csg. 2,478-83 ft.; S.D.; 600 lb. pres. on tbg. and csg.

Smith & Storey's No. 1 J. T. Lyne, J. Cooke Sur. 171. R.U.

L. W. Stieren No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

C. D. Scarborough No. 1 First Natl. Bk. of Rosebud, James Garner Sur. S.D. 425 ft.

Medina County

Elstone Oil Co.'s No. 1 Wm. Mann, J. Campbell Sur. No. 24. R.U.

Milam County

M. B. Cloud's No. 1-B Henniger, S. C. Robertson Sur. T.D. 700 ft.; 7-in. csg. 700 ft.

Nueces County

John Manley et al No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc.

Premont Pet. Co.'s No. 1 G. A. Langham, Los Sauces gr., Lot 12, Sec. 25. T.D. 5,240 ft.; tstd. 360 ft. oily mud, 30 ft. S.W.; D.S.T. 5,050-95 ft.

E. A. Graham et al's No. 1 Sam Taylor, D. M. Oliver Sur. Drlg. sh. 6,480 ft.

Renwar Oil Corp. et al's No. 1 J. B. Knight, Sec. 175, Palo Alto gr. 10¾-in. csg. 1,007 ft.; T.D. 6,960 ft.

Renwar Oil Corp. No. 1 Wright, J. V. L. De Herrera gr. (Riverside area). Drlg. sdy. sh. 725 ft.

Union Prod. Co. No. 1 W. H. Wallace, Sec. 88, Pauls subd. 9⅝-in. csg. 5,510 ft.; T.D. 7,250 ft.; 7-in. csg. 6,840 ft.; perf. csg. 6,770-92 ft. and 6,640-50 ft.; tstd. S.W.

Refugio County

Humble O. & R. Co.'s No. 5 Thomson, Maximo Gomez Sur. Drlg. sh.&L. 5,676 ft.

Norsworthy Prod. Co. No. 1 Wood, John Sinnott Sur. Cg. sh. 4,630 ft.

San Patricio County

Seaboard Oil Co.'s No. 1 M. C. Smith, Juan Hart & Sons Sur. Drlg. sh. 4,270 ft.

Republic Nat. Gas Co. No. 1 Galler, Sec 26 (E. Plymouth area). T.D. 6,037 ft.; run 5½-in. csg. to test at 5,175 ft.; perf. csg. 5,111-13 ft.; I.P. 19,000,000 cu. ft. gas; open tbg.

Texas Gulf Prod. Co. No. 1 Hollan, Mc Auley Lge., Blk. 6 (1½ mi. SW Sinton). Cg. 7,036 ft.

Wellington Oil Co. No. 6 Welder, Hart Sur. (Angelita). T.D. 7,051 ft.; 5½-in. csg. 6,305 ft.

Starr County

Hebert Aid's No. 1 Desidero Vera, Jose F. Garza Sur. Cg. sh. 866 ft.; no report.

Banks, Miller Oil Co.'s No. 1 McLean, Unit 3, Valle Del Rico Rio Grande subd., J. B. Villareal Porc. S.D. 2,756 ft.

C. L. Foster's No. 1 H. Garza, Juan Salinas, Porc. No. 71. S.D. 100 ft.

Lynes & Robertson's No. 1 Villareal, C. C.S.D.&R.G.N.G.R.R. Sur. 241. Loc.

Magnolia Pet. Co. No. 1 Zaguire (Cuevatas area). Drlg. sdy. sh. 4,785 ft.

Verne Clopton's No. 1 Lee M. Green, J. J. Garza Falcon, Porc. 81, Lot 7, Sh. 85. R.U.

W. W. Zimmerman's No. 1 Wood, Porc. 84. Drlg. sh. 30 ft.

Travis County

Burns Oil Co.'s No. 1 Lundergren, Henry Martin Sur. 65. T.D. 1,340 ft.; abd.

Victoria County

Colton & Colton's No. 1 E. Terrell, A. Sideck Sur. Loc.

Trinity Drillers et al's No. 1 T. G. Edwards, L. Rodriquez Sur. 10¾-in. csg. 485 ft.

Tom L. Gunter et al No. 1 Dietzel (1 mi. E of Coletto Creek field). Rig.

John Mayo and Trinity Drillers, Inc.'s No. 1 Vogt (2 mi. S Victoria). T.D. 5,323 ft.; P.B.; perf. csg. 2,552-55 ft.; flwg. gas, spray; kill well; pulling lnr.; S.D.

Renwar Oil Co. et al's No. 1 Weaver. 10¾-in. csg. 456 ft.; T.D. 6,010 ft.

Geo. E. Smith's No. 1 J. E. Stubbs, R. Manchola Sur. R.U.

Stanolind O. & G. Co. No. 7 Vandenberge (Placedo). T.D. 3,965 ft.; P.B. to sdtrk.; drlg. sh. 4,312 ft.

Webb County

W. C. McBride, Inc., et al's No. 1 Vela, Josefa Cuellar gr. Drlg. sh. 2,212 ft.

J. M. Anderson et al No. 1 Frost, C.C.S. D.&R.G.N.G.R.R. Sur. No. 17. Loc.

G. W. Basom's No. 1 Henry Adami, H. &G.N.R.R. Sur. No. 335. T.D. 1,278 ft. abd.

Tide Water Asso. Oil Co. No. 7 Bruni, Blk. 7, M. Arispe gr. (deep test Bruni field). S.D. 5,176 ft.

Williamson County

Brown-Gardner et al's No. 1 G. W. Griffin, Harrison Owens Sur. T.D. 30 ft.

Zapata County

Joe Martinez No. 2 Bruni, J. V. Borego gr. T.D. 938 ft.; S.D.

Zavala County

H. F. Wilcox O. & G. Co.'s No. 1 Kincaid, W. D. Kincaid Sur. Drlg. L. 3,695 ft.

WEST TEXAS WILDCATS

Brewster County

H. D. Wilcox's No. 2 Kokernot, Sec. 23, Blk. C, J. V. Massey Sur. S.D.O. 1,505 ft.

Cochran County

Humble O. & R. Co. No. 1 J. Westheimer, Lab. 1, Lge. 146, Stonewall Co. Sch. Ld. Drlg. 3,974 ft.

Crane County

Gulf Oil Corp. No. 5 M. B. McKnight Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. out at 4,930 ft.

Magnolia Pet. Co. No. 21 Hardewick-Univ., Blk. 30, Sec. 27, University Sur. (Extension). Drlg. 2,175 ft.

Crosby County

Gulf Oil Corp. No. 1-C Swenson, Sec. 95 Blk. 2, H.&G.N. Sur. Trying to free D.P. 6,926 ft.

Dawson County

Ray Albaugh No. 1 Dewey Hogg. T.D. 4,125 ft.; S.D.; may D.D.

Ector County

J. D. Bodkins No. 1 H. F. Foster, Sec. 12 Blk. 43, T.&P. Sur. T.D. 4,500 ft.; prep. abd.

R. H. Gill No. 1 J. E. Parker, Sec. 12 Blk. 45, T.&P. Sur. W.O.R. 145 ft.

Sloan & Zook No. 1 J. L. Johnson, Sec 34, Blk. 43, T.&P. Sur. P.B. 4,167 ft.; tstg. 24 B.O.P.D.; P.B. 4,167 ft.; C.O.

El Paso County

Tri-State Oil Co.'s No. 1 Kimble, Sec. 237, A.T.&S.F.R.R. Sur. U.R. csg. 2,060 ft.; drld. out to 2,103 ft. after freed tools.

Gaines County

Ohio Oil Co. No. 1 W. L. Gibbs, Sec. 270, Blk. G, W.T.R.R. Sur. Drlg. 3,270 ft.

Stanolind O. & G. Co. No. 1 J. B. Rayner, Sec. 3, Blk. 30-C, P.S.L. Sur.; 6,000-ft. test. Drld. 39 ft. of sat. out of a 104-ft. sec. from 4,661-4,765 ft.; made 60 bbl. in 30 min.; air-lift; enc. sulfur wtr. at 4,830 ft.; P.B. 4,783 ft.; flwd. 237 B.O.P.D. with 40 B.W.; prep. P.B. again; fsg. for lost swb.

Howard County

F. H. E. Oil Co. et al No. 2 D. H. Snyder, Sec. 21, Twp. 1s, Blk. 30, T.&P. Sur.; (extension). Drlg. 1,900 ft.

M. L. Richards No. 1 Read, Sec. 36, Blk. 30, T.&P. Sur. Drlg. 1,564 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp. 6. S.G. 6,340-45 ft.; T.D. 6,402 ft.

Haymon Krupp No. 1 Briggs, Sec. 24 Blk. 73, Twp. 7, T.&P. Sur. S.D. 6,015 ft.

Irion County

P. I. Fox et al No. 1 J. M. Nutt, Sec. 5, Gonzales C.S.L. Drlg. 335 ft.; no report.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.W.T. Sur. Drlg. on jnk. 4,015 ft.

McCulloch County

A. E. McMillan No. 1 Nat Randall, A. M Waldrip Sur., Sec. 146. 1,485 ft. est. 1,250,000 cu. ft. gas; S.D.O. 1,840 ft.

Pecos County

Lloyd-Penn & Hargraves No. 1 H. E. Bonebrake, Sec. 110, Blk. 8, H.&G.N. Sur. Drlg. 1,425 ft.

Magnolia Pet. Co. No. 1 W. I. Masterson, Sec. 10, Blk. 10, H.&G.N. Sur (Offset S to Apco discovery). Prep. run csg. 4,614 ft.; enc. some free oil at 4,599-4,614 ft., T.D.; flwd. 1,025 B. O. in 10½ hrs. after 500 gal. acd.; run 10-in. 326 ft.

Rockdale Oil Co. No. 1 A. Sullivan, Sec. 72, Blk. 10, H.&G.N. Sur. S.D. 25 ft.; repairs.

Stanley Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. S.D.O. 7,342 ft.

Superior Oil Co. No. 1 V. W. Crockett-Continental Oil Co., Sec. 7, Blk. 110, T.C.R.R. Sur. C.&P.

Presidio County

Warfa Oil Co. No. 1 Fischer ranch, Sec. 31, Blk. 8, G.H.&S.A. Sur. M.I.M.

Reeves County

Artie Baker No. 1 J. W. Grider, Sec. 31, Blk. 58, P.S.L. Sur. Abd. 450 ft.

Forest Development Corp. No. 1 I. E. Scott, Sec. 286, Blk. 13, H.&G.N. Sur. Cmtd. 8½-in. csg. 3,702 ft.; free oil at 4,840-55 ft.; drlg. sd. showing free oil at 4,963 ft.; D.D.

Runnels County

G. U. Phillips et al's No. 1 W. J. Fowler, SW¼ Sec. 150, E.T.R.R. Sur. S.D 1,425 ft.; csg.

Homer Price et al's No. 2 J. C. Beddo, Blk. 51, Diaz Sur. 532. S.D. 3,265 ft.

Terrell County

Shirley, Lanham & Blakeney No. 1, Sec. 45, Blk. 2-B, C.C.S.D.&R.G.N.G. Sur.; 2,500-ft. test. S.D. 313 ft.

E. M. Thomasson No. 1 Bates, Sec. 31, Blk. 1, H.&G.N. Sur. S.D. 80 ft.

Tom Green County

H. A. Ringle No. 1 Seal, Sec. 133, Washington Co. R.R. Sur. S.D.O. 1,625 ft.

Dan Short's No. 1 J. G. Davidson, NW part of Lovie P. Moore Sur.; 3,500-ft. test. S.D. for line 2,305 ft.

Upton County

N. A. Moore's No. 1 A. M. Mayhew, Sec. 2, Blk. W, G.C&S.F. Sur. Loc.

Ward County

Gulf Oil Corp. No. 5 Wristen, Sec. 18, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Drlg. 2,774 ft.

Yoakum County

Fred M. Allison Prod. Co. No. 1 D. T. Bush Est., Sec. 629, Blk. D, J. H. Gibson Sur. Drlg. 5,212 ft.; S.S.O.

Aloco Oil Co. No. 1 W. S. Knight, Sec. 773, Blk. D, J. H. Gibson Sur. (Extension). W.O.C. 4,928 ft.

TEXAS PANHANDLE

Armstrong County

Holmes, Newblock & Haley No. 1 Ed Moore, Sec. 319, Blk. 4-B, H.&G.N. Sur. Drlg. 4,515 ft.

Castro County

English et al No. 1 Gundlach, NW¼ Sec. 145, Blk. 6-M, S.K.&K. Sur. Loc.; no report.

Deaf Smith County

Uscan No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. C.O. 5,650 ft.

Hartley County

Phillips Pet. Co. No. 1 W. K. Gordon, Sec. 3, Blk. 44, H.&T.C. Sur. Drlg. 3,135 ft.

Lipscomb County

Phil O'Neil's No. 1 Jacob Koch, NW¼ SW¼ Sec. 539, T.&T.C.R.R. Sur. S.D. O. 530 ft.

Ochiltree County

James R. Macon et al No. 1 W. R Norris, SW SE Sec. 212, Blk. 43, H.&T.C. Sur. Bailing rotary fluid preparatory to resuming drlg. with C.T.; T.D. 6,274 ft. C.O. 6,274 ft.

Potter County

Les Whitaker No. 1 D. Pavillard, Sec. 101, Blk. 2, A.B.&M. Sur. Drlg. 510 ft.

Roberts County

E. J. Dunigan, Jr., No. 1 Ledrick, Sec. 34, Blk. C, G.&M. Sur. S.D. 5,428 ft.

Wheeler County

Smith Bros. No. 1 Ribble, Sec. 46, Blk. 5-A, H.&G.N. Sur. S.D. 4,135 ft.

E. C. TEXAS WILDCATS

Anderson County

A. Baggett's No. 1 J. R. Gillispie, J. R. Ferguson Sur., 2½ mi. NE of Frankston. R.U.

R. H. Williamson No. 1 O. G. Rogers, Wm. Greenwood Sur., 6 mi. SW of Elkhart. W.O.C. 350 ft.

Angelina County

Ginter Bros. No. 7 Copes Hrs., J. Morin Sur., 3 mi. E of Dibol. S.D. 60 ft.

Camp County

H. S. Moss' No. 1 Blackston, E. B. Davis Sur., 2 mi. S Pittsburg. Drlg. 1,830 ft.

Ellis County

C. M. Beckner et al No. 1 H. A. Styles, A. Bullock Sur., 3¼ mi. W of Maypearl. S.D. 660 ft.

Falls County

M. A. Hayes No. 1 D. G. Wooten, J. Powell Sur., 8 mi. SE of Lott. Bailing S.W. and S.S.O. 2,137 ft.

R. D. Salisbury No. 1 W. M. Shankle, J. A. Manchaca Sur., 1½ mi. NE Chilton. U.R. to D.D. 1,105 ft.

Jack Shaunfield No. 1 Bargonier, J. M. Graham Sur., SE of Chilton. S.D. 1,188 ft.

Fannin County

H. W. English No. 1 T. W. Ayers, J. D. Seales Sur. U.R. to set csg. 628 ft.

C. Newburn's No. 1 A. G. Allen, M. Caldwell Sur., 7 mi. NE of Banham. Drk.

Freestone County

Brothers Oil Co. No. 1 P. D. C. Ball, M. Rionda Sur., 5 mi. NW of Butler. W.O.C. 7-in. 100 ft.

W. H. Keeling No. 1 Bounds-Longbotham, R. B. Longbotham Sur. S.D. 30 ft.

A. G. W. Biddle No. 1 D. O. Nettles, Y. G. Dollahite Sur., 5 mi. NW of Fairfield. Loc.

Grayson County

John Grey No. 1 Freedman, W. S. Reeves Sur., 8 mi. NW of Denison. O.S. 1,357-59 ft.: S.D. 1,381 ft.; S.O.: tstd. S.W.; D.&A. 1,407 ft.

J. M. Jones' No. 1 Golling, I. Southward Sur., 10 mi. NW of Denison. T.D. 601 ft.; prep. to D.D.

Prince Bros. No. 1 Williams, S. Nix Sur., 2 mi. NE of Van Alystine. S.D. 1,173 ft.

Houston County

Aloco Oil Co. No. 1 Z. W. Wiesinger, T. H. Barrow Sur., 7 mi. SW of Elkhart. Drlg. 5,350 ft.

Humble O. & R. Co.'s No. 1 A. Pouncey, J. G. Thompson Sur., Navarro Crossing area. M.I.R.

J. C. Wynne et al's (Shell Oil Co., Inc.) No. 1 G. E. Dorsey, M. Salas Sur., 2½ mi. S of Percilla; E 102 ac. of tr.; 10,000-ft. test. Loc.

Hunt County

Raymond Hedge's No. 1 R. E. Hale, G. W. Wright Sur., ½ mi. NW of Campbell. Loc.

Westmount Oil Co. No. 1 Stevens, J. L. Terry Sur., Abst. 1231, 1½ mi. N of Celeste. Drlg. 4,331 ft.

Leon County

J. K. Hughes No. 1 Moore, J. N. Boyd Sur., 6 mi. SE Buffalo. Swbg. S.W., and 5% oil 5,534 ft.

Limestone County

J. R. Bunn's No. 1 C. O. Wright, M. Clendennen Sur., 1 mi. SE of Cooledge. S.D.R. 1,600 ft.

M. Samuel No. 1 C. Barron, W. G. McKinsey Sur., 4 mi. NW of Thornton. Drlg. 3,800 ft.

Nacogdoches County

D. McDaniels No. 1 T. H. Seale, J. A. Cherino Sur., just outside of city limits of Cherino. Prep. to D.D. 842 ft.

Navarro County

Topaz Oil Co.'s No. 2 W. J. Trammel, A. C. Kyser Sur. Swbg. wtr. with odor oil; prep. rng. csg. to test 2,992-3,000 ft.

Red River County

Kansas-Oklahoma Pet. Corp. No. 1 R. H. Ringwald, A. Moore Sur., 3 mi. W of Manchester. U.R. 806 ft.

Robertson County

J. E. Cox No. 1 Sandifer, H. Henry Sur., 3¼ mi. SE of Franklin. Loc.

Rusk County

A. O. Whittington's No. 1 Kangerga Bros., Ign. Castro Sur., 9½ mi. N and slightly E of Pirtle. Bldg. drk.

Smith County

Martin & Moore No. 1 B. H. Lunceford, W. Shipp Sur., 3 mi. NW of Garden Valley. S.D. 100 ft.

O. L. Ross No. 1 W. P. Rushing, J. Herrin Sur., 1 mi. E of Whitehouse. Abd. loc.

Texas Co.'s No. 1 A. A. Scritchfield, D. Page Sur., 2 mi. NW of Bullard. Drlg. 3,850 ft.

J. H. Thomason No. 1 J. W. Bartlett, R. H. Stewart Sur., ½ mi. SE of Jamestown. S.D. 2,004 ft.

Trinity County

Gossage et al's No. 1 First Natl. Bnk., B. F. Wright Sur., south of town of Trinity. Laying wtr. line.

McAlpine's No. 1 C. V. Diller, J. Grissett Sur., 7 mi. N of Trinity. Loc.

NORTH TEXAS WILDCATS

Archer County

Bridwell Oil Co.'s No. 1 Thom, W. H. Spillers Sur., Abst. 375. 6⅝-in. 3,773 ft.; drlg. plug.

British American No. 1 Jack Parkey, Sec. 11, Blk. 3, H.&T.C. Sur., 5,000-ft. test. Test L. 4,653-69 ft.; T.D. 4,669 ft. W.O.T.

Magnolia Pet. Co. No. 1 F. Them, N part of S 553 acres of Spillers Sur., Abst. 375; 5,000-ft. test. 6⅝-in. at 3,800 ft.; sdy. L., S.O. 3,839-60 ft.; T.D. 3,868 ft.; P.B. 3,861 ft. and tstg.

Clay County

L. T. Burns No. 1 E. F. Calloway, Lot 9, Hopkins Co. Sch. Ld. Enc. sat. 5,241-54 ft.; S.D.O. 5,356 ft.

L. T. Burns No. 1 J. T. Pickett, W. W. Yearly A-745, 6⅝-in. 4,430 ft.; O.S. 4,430-44 ft.; P.B. 4,380 ft.; drld. out to 4,450 ft.; swbg. and tstg.

Nixon Brothers and J. W. Dutton No. 1 Tanman, SE¼ of Block 4, Cherokee C.S.L. Drlg. 709 ft.

Shell Oil Co., Inc.'s No. 1 Scaling, C of Blk. 87, J. H. Belcher Sur., 4 mi. S of Burns pool. Drlg. 1,598 ft.

Youngblood & Foree's No. 1 Mrs. Ida Wynn, Sec. 2, T.&N.O. Sur. A-795. Drlg. 5,755 ft.

Cooke County

Target Drlg. Co. No. 1 Honeycutt, Sec. 4, Univ. Lge. No. 8. Set. whpstk. 3,153 ft.; S.D.O. 5,107 ft.

Cottle County

J. E. Burns et al No. 1 J. E. Moss, Sec. 5, Blk. L, A. Forsythe Sur. Jnkd. 225 ft.; skid 20 ft. S and R.U.R.

Magnolia Pet. Co. No. 1 Alice Green, NW part of John M. Grogan Sur., Abst. 1121. Drlg. 5,732 ft.

Hardeman County

Amerada Pet. Corp. No. 1 W. M. Rice, Sec. 81, Blk. H, W.&N.W. Sur. Drlg. 6,435 ft.

Carter & Taylor's No. 1 Norton, NW cor. 91-ac. tr. in Blk. 3, Robt. Young Sur., 16 mi. N of Quanah. Drlg. 250 ft.

G. T. Kimble No. 1 M. T. Walling, SW¼ Sec. 368, Blk. H, H.W.&N.W. Sur., 5,500-ft. test. M.I.M.

Jack County

Hanlon-Buchanan, Inc.'s No. 1 T. T. Bouldin, SW part of Blk. 3, W.C.R.R. Sur., Abst. 906. Drlg. 1,820 ft.

Harper Pet. Corp. No. 2 S. V. Vanhooser, Abst. 1926, J. W. Morrow Sur. T.D. 2,030 ft.; S.D.O.

Nelson Oil Syndicate No. 1 O. D. Birdwell, SW part of T. B. Riddle Sur., Abst. 1647. T.D. 4,405 ft.; flwg. by heads; W.O.T.; O.S. 4,380-4,405 ft.; 5⅛-in. 4,380 ft.

Pitzer & West's No. 1 Sloan, Sec. 2786, T.E.&L. Sur. Drk.

Montague County

Sackett and Continental No. 1 J. L. Brown, Sec. 58, E.T.R.R. Sur. Drlg. 3,750 ft.

Wichita County

Hanlon-Buchanan, Inc., No. 1 Fassett & Tuttle "F," D.L.&C. Sur. A-596. 6⅝-in. 4,040 ft.; L.&O.S. 4,061-92 ft.; shot 155 qt.; tstg. est. 100 bbl.; S.D.O.

J. R. Price and others No. 1 Hodges, NW¼ of Block 13, Burkburnett townsite, Thomas Redman Sur., Abst. 243. T.D. 1,710 ft.; 6⅝-in. 1,670 ft.; shot with 17 qt.; S.D.O.

Wilbarger County

Lawson & Leavell No. 16 W. T. Waggoner A, Sec. 109, H.&T.C. Sur., Blk. 14; 3,500-ft. test. S.D.O.

Rogers & Cavin No. 1 A. P. Morris, Sec. 3, Blk. 14, SW of Harrold. S.D.O. 2,100 ft.

Wise County

H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Ld. Plts.

Young County

Cosden Pet. Co.'s No. 1 H. C. Shanafelt, A.B&M.A. Sur., Abst. 1369. 6⅝-in. 2,981 ft.; W.O.C.

H. W. Dyer's No. 1 M. G. Cheney, M. L. Terry Sur., Abst. 1261. Loc.

Gentex Oil Co. No. 1 Burch, Abst. 1770, T. J. Burch Sur. Set 5½-in. at 4,145 ft.; T.D. 4,364 ft.; 5⅛-in. 4,085 ft.; recmtd. and W.O.C.

L. A. Long et al No. 1-B King-Wooten, Sec. 1969, T.E.L. Sur. 5½-in. 4,335 ft. collapsed; fsg.; T.D. 4,538 ft.; P.B. 3,900 ft.; drld. out to 4,150 ft. and perf.

csg. 3,960-80 ft.; to acd. L.; S.O. 3,922-90 ft.

Pitzer-West and Brazos-Young No. 1 F. Wray, Abst. 140, J. P. Hume Sur., 4,500 ft. test. Drlg. 4,295 ft.

Stanley Thompson et al No. 1-A J. C. Vaughn, Blk. 3, T.&N.O.R.R. Sur., Abst. 1248; 4,250-ft. cable tool test. Drlg. L. 2,910 ft.

Taubert & McKee Drlg. Co.'s No. 1 Shanafelt, P. Pointevent Sur., Abst. 1,309. R.U.R.

Trentman, Nunnelly & Rankin No. 1-B Henry Brashears, Sec. 1974, T.E.L. Sur. 6⅝-in. 3,980 ft.; L.S.O. 3,980-4,022 ft.; 12 B.O., 100 B.W. in 12 hrs.; S. D.O.

EAST TEXAS

(Border Counties)

Cass County

G. Scott Hammon's No. 1 Price, C S½ W 40 ac., 125-ac. tr., Chas. Ames Sur. R.U.

Harrison County

Ark. La. Gas Co. No. 1 W. B. Taylor, 1,150 ft. EL, 3,774 ft. SL, 1,115-ac. tr., Holloway Sur. D.S.T. Abney zone 4,827-80 ft.; 15-min. rec. 20,000,000 cu. ft. gas and brk. wtr.; W.P. 480 lb.; D.S.T. 6,100-20 ft.; 15 min. rec. 3 to 5 million cu. ft. gas and 170 ft. drlg. mud; cg. ahd.

J. A. Hughes' No. 1 Taylor, H. McNutt Sur. S.D. 1,947 ft.

Marion County—Other

M. D. Fitzwater No. 1 Mrs. Mary Duncan Jesse Fitzgerald Sur. T.D. 2,558 ft.; drlg. plug.

J. M. Horn No. 1 W. Taylor, 450 ft. EL, midway N and SL, B.B.B.&C.R.R. A-54 Sur. Set 6-in. csg. 2,289 ft.; T.D. 2,313 ft.; drlg. plug.

J. D. Reynolds No. 1-B Terry, 500 ft. S, 100 ft. W of No. 1, W. Coore Sur. Csg. collapsed; T.D. 2,360 ft.; W.O.

J. D. Reynolds et al No. 5 Terry Est., 675 ft. E of No. 1, W. Coore Sur. T. Tokio oil sd. 2,332 ft.; 5-in. csg. 2,332 ft.; T.D. 2,359 ft.; W.O.S.R.

Joe G. Strahan's No. 1 Stiles et al, 330 ft. SW cor. tr., M. G. Nall Sur. 10-in. csg. 21 ft.; W.O.C.

Marion County—Rodessa

Ark. Fuel Oil Co. No. 1 A. P. Cromer, 1,100 ft. S, 200 ft. W, NE cor. 119-ac. tr., W. Peacock Sur. 9⅝-in. csg. 1,022 ft.; set 5½-in. csg. 5,967 ft.; W.O.C.

Gulf Oil Corp.'s No. 2 C. W. Ralph, 2,825 ft. SL, 519 ft. WL, J. Hanks Sur. 13⅜-in. csg. 125 ft. and 9⅝-in. csg. 1,937 ft.; drlg. 2,150 ft.

Magnolia Pet. Co. No. 2 Duncan, 933 ft. S of No. 1, T. H. Davis Sur. Set 7-in. csg. 6,023 ft.; T.D. 6,030 ft.; acd. with 3,000 gal.; swbg. to test 6,030 ft.

Phillips Pet. Co. No. 3 N. B. Henderson Gillespie Sur. 7-in. csg. 6,068 ft.; perf. 5,983-6,006 ft.; acd. with 2,000 gal.; tstg. 6,080 ft.

Panola County

Turner & Smith No. 1 Panola Dev. Co., 2,500 ft. NL, 1,000 ft. WL, Gillespie Sur. Set 10¾-in. csg. 6000 ft.; T.D. 1,700 ft.; drlg. ahd.

WEST CENTRAL TEXAS DISTRICT

Brown County

A. D. Bruce's No. 1 L. S. Mauldin, SW¼ Sec. 15, H.&T.B. Sur., Abst. 464. Drlg. 1,608 ft.

J. L. Derrich No. 1 C. V. Harris, Sec. 617, Prosper Mangle Sur. Drlg. 1,848 ft.

Kynaston & Cullison's No. 1 L. A. Hill, SW Sec. 35, H.T.&B. Sur. Drlg. 100 ft.

C. C. Lockwood's No. 1 T. B. Landreth, SE cor. of Subdivision 2, J. Dickinson Sur. No. 10. Drlg. 430 ft.

Lynn No. 1 Nesbitt Rice, M.E.P.&P. Sur., Blk. 25, D.&A. at 1,120 ft.

Wilson Oil Co., Inc., No. 1 M. Bowden, Sec. 138, W. E. Gilliland Sur. Drlg. 1,417 ft.

Callahan County

Bayou Oil Co. No. 1 W. E. Jones, Sec. 84, Comal Co. Sch. Ld. Sur. Loc.

Dobbs Oil Corp. No. 2 Finley, Sec. 75, Bayland Orphans Home Ld. T.D. 2,104 ft.; moved off mach.; may move on rotary to D.D.

S. Henderson et al's No. 1 I. N. Jackson, SW¼ Sec. 20, E.T.R.R. Sur. Drlg. 325 ft.

T. S. Holden's No. 1 Nichols et al, 5 mi. SE of Cross Plains. Spud.

Kendrick & Van Zandt's No. 1 A. W. Johnson, SE cor NE¼ Sec. 62, L.A.L. Sur. Drlg. 150 ft.

M. M. Little et al No. 1 W. P. Ledbetter, Sec. 4, NW M. Cherry Sur. Drlg. 1,245 ft.

J. L. Reeves et al's No. 1 P. G. Hatchett, NW¼ Sec. 30, D.&D.A. Sur. Drlg. 50 ft.

Hal Wagnon et al's No. 1 Wm. Isenhower, Sec. 304, Blk. 5, S.P. Sur. S.D.O. 550 ft.

Coleman County

Anzac Oil Corp.'s No. 5-C J. P. Morris, David Breeding Sur. Comp. 281 bbl. oil in 5½ hrs. through open csg. 2,175-94 ft.

B. Banner's No. 1 R. R. Powell, NW part of Moses Little Sur. No. 40. Loc.

Coleman Oil & Gas Co.'s No. 1 G. Powell, SE part of Moses Little Sur. No. 40. Loc.

Cooper Oil Co.'s No. 1 J. P. McCord, Sec. 519, San Augustine Sur. T.S. 3,975 ft.; P.B. 3,975 ft.; flwd. 30 B.O.P.D.

Kynaston-Culberson-Culberson & Bozeman No. 1 J. P. McCord, Sec. 159, J. W. Meeks Sur. U.R. 10-in. 2,160 ft.

A. R. Pruitt No. 1 Y. B. Johnson, J. W. Hicks Sur., Abst. 265. Drlg. 450 ft.; no report.

Comanche County

J. W. Cawley et al No. 2 A. K. Anderson, SE Subd. 6, Lampasas C.S.L., Sec. 34, Abst. 608. S.D.; sd. 601-06 ft., may shoot.

Concho County

L. G. Byerley No. 1 Mrs. G. Noyes, NW part of Sec. 1402, Abst. 98. D.&A. at 1,640 ft.

Natural Resources Corp. No. 1 Armor, Sec. 105, Blk. 72, T.&N.O. Sur. S.D.O. 1,216 ft.

Coryell County

W. E. Crews' No. 1 S. C. Blanchard, W part of Wm. H. King Sur., 2 mi. SW of Mound, 5,000-ft. test. Loc.

Eastland County

R. R. Groce's No. 1 J. M. Rush, Sec. 130, Blk. 3, H.&T.C. Sur. S.D.O. 1,728 ft. Sec. 87, Blk. 4, H.&T.C.R.R. Sur. R.U.

Lone Star Gas Co.'s No. 1 F. J. Kimmel,

J. L. Reeves No. 1 J. V. Parker, NW part of Wm. Van Norman Sur. Drlg. 2,330 ft.

W. A. Stiles et al's No. 1 H. F. Duncan, Sec. 10, Blk. 2, H.&T.C.R.R. Sur. Pits.

Erath County

Wayne Chandler's No. 1 Chandler, J. W. Moore Sur., Abst. 571. Fsg. 4,794 ft.

T. Gray's No. 1 C. Young Hrs., NW cor. of Stephen Smith Sur., Abst. 682. Drlg. 60 ft.

T. G. Jackson No. 1 J. W. Taylor, Prater Sur., Abst. 1029, 4 mi. NE of Desdemona. Drlg. 1,430 ft.

J. F. Monissey et al's No. 1 R. J. Sikes, J. Hargrave Sur., 6 mi. N of Stephenville; (5,000-ft. test); S.D.O. 260 ft.

Hamilton County

Wallace & Vickers' No. 1 C. C. Lund, J. P. Bailey Sur. 51. Fsg. 3,453 ft.

Haskell County

P. S. Kendrick No. 1 T. G. Hendrick, NW part of Sec. 1, A.B.&M. Sur. Drlg. 2,744 ft.

Hood County

D. S. Sowell's No. 1 Burton, L. Campbell Sur. S.D.O. 4,380 ft.; may deepen.

Jones County

Healey & Walters' No. 1 Warren, D. P. Rowland Sur. Spd.

Humble O. & R. Co. No. 1 Ida Irwin, NW¼ Sec. 41, Blk. 18, T.&P. Sur. Comp. 344 bbl. dly. from 2,412-21 ft.

Jones & Stasney No. 1 Muehlstein, Sec. 28, D.&D.D. Lds. T.D. 2,816 ft.; U.R. 6½-in. csg.

N. H. Martin & Sons No. 1 Wirt Davis, SW Subd. No. 7, F. M. Smyth Sur. No. 3. S.O. est. 90 B.O.P.D.; C.O. after shot 1,708-13 ft.

Moutray Oil Co. and King's No. 1 Ray Hayden, NW¼ Sec. 33, Blk. 15, T.&P. Sur. D.&A. at 1,950 ft.

Keeler's No. 1 Radford, SE¼ Sec. 20, Blk. 4, H.&T.C.R.R. Sur. S.D.O. 3,274 ft.

J. M. Radford Gro. et al's No. 1, Sec. 21, Blk. 4, H.&T.C.R.R. Sur. Spd.

A. H. Tarver No. 1 A. S. Barkley, Sec. 54, Deaf and Dumb Asyl. Lds. S.D.O. 5,118 ft.

Ungren & Frazier's No. 1 J. W. Barnes, N 80 acres of SE¼ Sec. 48, Blk. 15, T.&P. Sur. Drlg. 443 ft.

Mills County

D. Lane's No. 1 J. W. Spinks, J. Douglas Sur. 5. S.D.O. 1,780 ft.

Nolan County

Green & Owens' No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. Drlg. 4,903 ft.

Plymouth Oil Co. No. 1 F. M. McClure, Sec. 49, Blk. 23, T.&P. Sur., 8,000-ft. test. Drlg. 3,695 ft.

Palo Pinto County

Crow & Sons' No. 1 H. Belding, SW cor. Sec. 103, B.B.B.&C. Sur. Loc.

W. K. Gordon No. 1 W. R. Ringe, Sec. 81, Blk. 2, T.&P. Sur. Drlg. 2,300 ft.

Hickock & Reynolds No. 1 R. H. Gouldin, L. P. Elder Sur., Abst. 1474. Drlg. 2,255 ft.

Parker County

Brown & Gardner Bros. No. 1 Gilbert, T.&P. Sur., Abst. 1958. S.D. 2,680 ft.; repairs.

Shackelford County

Dean Bros.-A. W. Adkisson No. 1 W. P. Newell, SW¼ Sec. 114, E.T.R.R. Sur. Oil sd. 1,427-42 ft.; S.D. test.

Fain & McGaha Oil Corp.'s No. 1 Dawson-Conway, SE cor. P. G. Holcomb Sur., Abst. 1424. Drlg. 525 ft.

J. L. Hart's No. 1 E. O. Beck, Sec. 159, B.B.B.&C. Sur. (outpost test to Ivy pool). Loc.

Honea, West & Yates' No. 1 Martin, NW outpost to Ivy pool. Drlg. 2,275 ft.

Owens-Snebold Oil Corp.'s No. 1 E. P. Olsen, SW¼ Sec. 163, B.B.B.&C. Sur. (1 mi. SW of Ivy pool). Loc.

C. R. Schuster No. 1 L. E. DeWitt, Blk. 56, Univ. Lds. S.D. 3,040 ft.; wtr.

Stephens County

Geo. E. Fagg No. 1 Richardson, Sec. 5, Blk. 31, S.P.R.R. Sur.; 4,000-ft. test. Drlg. 1,100 ft.

T. G. Shaw, Tr.'s No. 1 S. P. Stroud, NW¼ of G. Newton Sur., Abst. 128. Fsg. bit. 990 ft.

A. G. Swanson No. 1 Veale-Frost, Sec 37, Blk. 8, T.P. Sur. Drlg. 3,010 ft.

Whittmer Oil & Gas Properties' No. 1 Loving, Sec. 66, B.A.L. Sur. Swbd. and tstd. 160 bbl. oil in 5½ hrs. through 2-in. tubing. S.D. for test at 3,512 ft.

Stonewall County

L. Clark et al's No. 1 M. R. Neatherly, Sec. 53, Blk. D, H.&T.C.R.R. Sur. Drlg. 1,862 ft.

Shell Oil Co., Inc., No. 1 A. E. Smith, Sec. 143, Blk. 1, H.&T.C. Sur.; 6,000-ft. test. Drlg. 2,320 ft.

Taylor County

Sprotex's No. 1 A. L. Pittman, NW¼ Sec. 29, B.A.L. Sur. Drlg. 800 ft.

Tal Vez Oil Co. No. 1 J. W. Martin, Blk 1, T.&N.O. Sur. D.&A. at 2,750 ft.

Indiana Fields

(Continued from Page 73)

stone at 2,388 ft. Tide Water Associated Oil Co.'s No. 1 Kelly, C E½ SE NW Section 8-3s-13w, total depth 3,019 ft., was acidized with 1,000 gal. and a 25-bbl. oil load. It pumped 200 bbl. of oil and 100 bbl. of water the first 24 hours and 160 bbl. of oil and 40 bbl. of water the second day; completed. Continental Oil Co.'s No. 3 Bozeman, NE NE NE Section 23-3s-14w, oil sand at 2,464-75 ft. and 2,490-2,505 ft., flowed 325 bbl. of oil in 6 hours through ½-in. choke; completed.

Posey County

In Posey County Sun Oil Co.'s No. 6 Dietz, NE SW SE Section 1-7s-12w, was completed on the pump, a 75-bbl. well from pay at 1,894-1,909 ft., which had been shot with 90 qt. Haynes & Thomas' No. 1 Seifert, C NW SE Section 19-6s-12w, total depth 2,812 ft., plugged back to 409 ft., and shot with 10 qt. at 400-09 ft., pumped 1 bbl. per hour with a trace of water and was completed. Somers & Egan's No. 1 Keck, NE NE NE Section 34-3s-14w, Cypress sand at 2,490 ft., pay at 2,507-15 ft., flowing 600 bbl. a day naturally, through casing.

In Sullivan County A. S. Reed and others No. 1 Higbee, NE SE NE Section 36-8n-10w, had a gas showing at 610-32 ft. and an oil showing at 723-36 ft., but was abandoned as dry.

In Vigo County Siosi's No. 1 Fenton, C S½ SE SE Section 9-10n-10w, was completed after it had pumped 125 bbl. of oil in 24 hours.

In Decatur County Hoosier Public Utilities Co.'s No. 203, on the Keeton land, C SE SE Section 10-9n-9e, started with 162,000 cu. ft. of gas per day from sand at 890-93 ft.; completed.

In Jay County, Larapaul Oil Co.'s No. 1 Lander, SW NE NW Section 25-22n-12e, was shot with 50 qt. and pumped 12 bbl. of oil and a little water in 24 hours. It was completed.

In Harrison County W. B. Grove's No. 1 Jacob, SW cor. NE NE SW Section 9-5s-4e, reported abandoned at 125 ft.

In Clay County Dorsey Oil Co. has machine in for No. 1 Hickman, 100 ft. from N and 300 ft. from W lines of SE SE Section 15-9n-6w. It is to be an 1,850-ft. test.

In Warrick County Fred McWilliams' No. 1 Edwards, NW NE SE Section 24-5s-9w, shut down at 1,700 ft. L. T. Phillips, trustee's, No. 2 Phillips, NE NE SW Section 32-4s-6w, Devonian lime top estimated by one geologist at 2,660 ft., but by another at 2,735 ft. A core at 2,803-13 ft. recovered 10 ft. of hard crystalline lime with an odor of sour soil; shut down.

In Knox County, Taylor Drilling Co.'s No. 1 McLinn, C SE SW SE Section 33-1n-12w, abandoned at 2,388 ft. Fredonia lime topped at 2,240 ft.; water broke in at 2,327-32 ft.

In Pike County Vern Burden's No. 1 Frederick, NE NW SE Section 28-1n-9w, shut down at 1,646 ft.

In Daviess County Ruble and others' No. 1 Huff, NW SE NW Section 9-2n-5w, fishing at 550 ft. F. Hartman's No. 1 White, NE NE SW Section 22-2n-7w, shut down at 1,160 ft.; had about 500,000 cu. ft. of gas at 355 ft. Prairie Oil & Gas Co.'s No. 1 Allison, SW SW SW Section 26-2n-7w, Ste. Genevieve limestone topped at 1,048 ft., but was abandoned as dry at 1,182 ft., with no showings reported at any depth.

In Perry County Charles E. Dice's No. 2 Knable, SE SW NW Section 17-6s-3w, shut down at 625 ft. Persise & Wyman's No. 1 Greiner, SW SE SE Section 13-4s-2w, shut down at 800 ft.

In Vanderburgh County J. L. Drake had started drilling No. 1 Keil, NW cor. Section 5-6s-10w. Hoosier Drilling Co.'s No. 1 Baum, SW SE NW Section 9-6s-7w, was drilling at 860 ft.

In Pike County George W. Miller's No. 1 Nixon, SE SW NE Section 14-3s-8w, was drilling at 3,240 ft.

In Lagrange County J. W. Hunt's No. 1 Babcock, SW SW NE Section 13-37n-9e, was drilling at 690 ft.

In Whitley Township Michiana Oil & Gas Development Co.'s No. 1 Bailey, NE NE SW Section 3-30-8e, was shut down at 575 ft.

In St. Joseph County K. V. Nilson had machine in for No. 1, 210 ft. from N and 260 ft. from E lines of NE¼ Section 8-37n-1e, a Trenton-lime test.

In Jasper County United Development Co.'s No. 1 Woodruff, SW SE SW Section 28-31n-5w, was shut down at 1,011 ft. Unverified report said the well has an oil showing.

In Huntington County R. L. Myers was drilling below 720 ft. in No. 1 Cramer, C E½ SW NW Section 29-26n-9e.

In Tipton County F. W. Eastman's No. 1 Vandeventer, SE SW NE Section 21-21n-3e, was drilling below 750 ft.; had Niagara lime at 217-490 ft.

In Delaware County W. E. Black's No. 1 Thomas, SW NW NE Section 10-22n-10e, was drilling at 1,255 ft. Trenton lime was topped at 958 ft.

In Blackford County A. M. Jones' No. 1 Simonton, SW SE NE Section 15-24n-11e, was shut down at 1,100 ft.

In Knox County Mid West Development Co.'s No. 1 Frey, SE SE SW Section 11-2n-11w, pumped 30 bbl. of oil and 30 bbl. of water; testing. A. C. Thomas' No. 1 Schwab, Lot 44, Vincennes Commons, Township 2n-11w, a 10-acre lease, was drilling at 995 ft. LeRoy Garrison's No. 1 George Schuman, C SE NW Section 9-5n-8w, machine. T. J. Boyce's No. 1 Purcell, Donation 224, Township 2n-8w, drilling at 2,400 ft.

In Daviess County Neely & Young's No. 1 Stuffle, NE NW NE Section 29-4n-5w, drilling at 170 ft.

In Sullivan County Salem Oil Co.'s No. 1 Woodard, NW NW NW Section 7-8n-9w, drilling at 1,170 ft. Siosi's No. 1, NE NE SE Section 18-8n-10w, machine.

In Vigo County Siosi's No. 1 Hilbrandt, C N½ NW NW Section 15-10-10w, was drilling at 1,500 ft. Vanderbank & Whitaker's No. 1 Troutman, SE SW NW NW Section 16-10n-10w, pay at 2,198-2,203 ft.; moving back boiler; also had showing at 2,159-67 ft.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1939 High	1939 Low	Week ending Sept. 9 High	Week ending Sept. 9 Low	Week ending Sept. 9 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
72¼	50	72½	65	72½	Amerada Corp.	788,675	N.P.	50cQ	7-1-39	$2.00	$2.07	$3.04	78	55	111⅞	51½
23½	18⅛	22¾	20⅜	22⅛	Atlantic Refining	2,663,999	$25	25cQ	9-15-39	1.00	1.40	3.51	27⅜	17¾	37	18
21½	10¼	13⅞	12	13¾	Barber Asphalt Co.	390.223	$10	75c	12-16-37	.	—.85	1.91	23¾	12½	43⅝	10⅛
19½	11⅛	18¼	16¼	17⅛	Barnsdall Oil Co.	2,250,344	$5	25cQ	8-1-39	1.00	1.26	.85	21⅜	10½	35¼	10
9⅞	6½	9⅞	8⅜	9	Consolidated Oil Corp.	13.751.846	N.P.	20cQ	8-15-39	.80	.55	1.48	10¾	7	17⅞	7
31½	19⅞	30⅞	28½	29⅜	Continental Oil of Delaware	4,682,581	$5	25cQ	9-28-39	‖1.00	1.10	2.98	35¾	21¼	49	24
8⅞	4½	8⅞	6¾	8¼	Houston Oil (new)	1.098.618	$25		10-17-30		.83	.94	9¾	5	17⅝	4¾
20¼	10	18¼	14¾	17	Lion Oil Refining	435,815	N.P.	25cQ	7-25-39	1.00	2.09	2.17	25½	15⅝	34	12½
18	11⅛	18	16	16⅞	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-39	.60	.56	2.86	22⅝	12¼	35⅝	14
14⅞	8¾	13½	11⅛	13⅛	Mission Corporation	1,379,245	$10	25c	6-29-39	1.00	1.04	1.31	17¾	10⅝	34	15
15½	5⅝	11⅜	9⅛	11¼	National Supply	1,155,517	$10	$2 pf.‡	12-22-37	.	—.79	4.90	23	12½	41⅜	17⅝
10½	6	10½	9¼	9¾	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	.25	1.30	14⅞	8⅞	22⅞	8
11⅞	7⅜	11⅛	9¾	9¾	Pacific Western Oil	1,000,000	N.P.	50c	12-20-38	.50	1.22	1.39	15⅞	10¼	29¾	11⅝
6¾	5	7¾	6	7½	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	.	.08	1.18	9¼	6¼	17⅛	7
45½	31¼	45½	42½	44⅞	Phillips Petroleum	4,449,052	N.P.	50cQ	9-1-39	‖2.00	2.03	5.42	44⅜	27¼	64	30⅛
23½	17⅛	23⅝	22	23½	Plymouth Oil Co.	1,006,200	$5	35cQ	9-30-39	1.40	2.59	2.85	25⅝	15	29⅞	13
11¾	6⅛	11⅜	10½	10⅜	Pure Oil Co.	3,982,031	N.P.	25c	12-1-37	.	.38	2.15	13½	8¼	24⅜	8⅜
10¼	6⅝	9¼	8¼	8¾	Richfield Oil Corp.	4,010,000	N.P.	50c	12-21-38	.50	.51	.35	9⅞	5	6½	4⅛
23¼	15½	23¼	20	22⅜	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-39	1.00	1.52	1.97	27½	15½	54⅛	16
17	9⅞	17¼	15¼	17	Shell Union Oil	13,070,625	N.P.	25c	7-20-39	.70	.72	1.44	18⅜	10	34⅜	14⅞
29½	15½	25¼	22⅜	24½	Skelly Oil	995.349	$15	50c	12-15-38	1.00	2.27	6.07	34⅜	18½	60⅝	26½
15	10¼	15	13⅜	14⅞	Socony-Vacuum	31,206,071	$15	25cSA	9-15-39	.50	1.29	1.82	16⅜	10⅜	23¼	13
31	24¼	31	28½	29¾	Standard Oil of California	13,004,153	N.P.	25cQ	9-15-39	1.40	2.22	3.17	34⅞	25½	50	27⅛
29⅛	22¾	29	25¾	27⅝	Standard Oil (Indiana)	15,272,020	$25	25cQ	9-15-39	1.00	1.82	3.66	35½	24¾	50	26½
53¼	38	50	46	49½	Standard Oil of New Jersey	26,618,065	$25	50c¶	6-15-39	‖1.50	2.86	5.64	58⅜	39¾	76	42
66	45¾	54	50	54	Sun Oil	2,316,484	N.P.	25cQ	9-15-39	1.00	1.07	3.86	65½	45	77½	44½
3⅝	1¾	3⅝	2⅝	3¼	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	.10	.24	.32	4¼	1¾	7¾	1½
48¼	32½	49	44⅝	48¾	Texas Corp.	10,876,882	$25	50cQ	7-1-39	2.00	2.13	5.02	49⅝	32⅝	65⅛	34⅜
5⅜	3¼	5½	4⅛	5	Texas Gulf Producing Co.	888,144	N.P.	10c	6-15-39	.15	.86	.08	5⅞	2⅝	9⅝	2
10⅝	7	10⅜	8	9⅞	Texas Pacific Coal & Oil	888,236	$10	10c	9-1-39	.40	1.16	1.11	12½	7	16⅝	5⅜
14¼	9½	14	13⅛	13¾	Tide Water Associated	6,375,253	$10	15c	9-1-39	1.00	1.28	2.08	15¾	10⅛	21⅝	13⅛
19⅜	15⅛	19⅜	16½	18¼	Union Oil of California	4,666.270	$25	25c	8-10-39	1.20	1.47	2.58	22½	17⅛	28⅛	17⅛
23⅝	20⅛	23½	20¾	23¼	Union Tank Car Co.	1,177,381	N.P.	30cQ	9-1-39	1.30	1.16	1.70	23½	20	31½	22
3¾	2⅜	3⅝	3	3¼	Wilcox Oil & Gas	487.568	$5	....	5-10-28	....	.52	.24	3½	1⅝	6¼	1⅜

*Payable in 3½ per cent notes. †Includes extras. ‡One-tenth share $2 preferred stock. §Also 1½ per cent stock dividend. ‖Also right to subscribe to bonds. ¶Also 1 per cent in stock. —Deficit.

New York Curb Exchange

1939 High	1939 Low	Week ending Sept. 9 High	Week ending Sept. 9 Low	Week ending Sept. 9 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
9	5½	8⅞	7½	8½	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	—$0.22	$0.27	11¾	5	10	6⅝
7¼	2½	5⅝	3½	4⅝	Bridgeport Machine Co.	270,000	N.P.	$1.25	12-30-37	....	—.14	1.90	10¼	4⅞	21⅜	7
34⅜	26½	30	26½	30	Buckeye Pipe Line Co.	200,000	$50	50c	9-15-39	2.00	2.36	4.02	39	22½	51½	36
131	110	120	120	120	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-25-39	6.50	5.32	6.73	128	97	112	95½
9¼	4½	7⅜	6⅛	6⅞	Cities Service (new)	3,704,067	$10	....	6-1-32	....	.23	1.02	11	5⅛	5⅝	1½
2¼	⅛	2¼	1⅜	1⅜	Cosden Petroleum	462,551	$1	....	....	....	....	.19	2⅝	⅞	5½	1⅛
26⅜	16⅜	27⅜	22¼	27⅜	Creole Petroleum	6,975,383	$5	50cSA†	6-15-39	1.00	1.64	1.61	27½	17½	38¾	20¼
7⅛	3⅝	6⅝	4½	6¼	Darby Petroleum	351.390	$5	25cSA	1-15-39	.50	....	1.36	10¼	5½	18⅝	6½
2⅝	1½	2⅝	1¾	2¼	Derby Oil & Refining	263,162	N.P.			....	—.91	1.34	3½	1½	8⅜	2¼
20	15⅛	17½	17½	17½	Eureka Pipe Line	50,000	$50	50c	8-1-39	3.00	—.37	—.12	31	16	47½	24½
42⅞	29¼	42⅞	39¼	42¼	Gulf Oil Corp.	9,076,202	$25	25cQ	10-1-39	1.00	1.43	3.51	46⅞	33	63½	33
71	52½	71	64¼	68	Humble Oil & Refining	8,987,840	N.P.	62½c	10-2-39	3.00	3.98	5.22	72⅝	56	87	54⅞
17	12⅞	15¼	14	14⅞	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-39	1.25	.96	.98	19½	14⅛	24¼	14⅛
7	5⅝	..	..	..	Indiana Pipe Line	300,000	$10	30c	5-15-39	.50	.47	1.03	9⅜	6	15	5⅞
27½	17½	24½	21⅛	23¾	International Petroleum	14,324,088	N.P.	1.00†‡	6-1-39	2.50	1.98	....	31¼	21	39½	23½
3⅜	2⅛	3¾	2½	3	Kirby Petroleum Co.	500.000	$1	10c	4-15-38	.10	.14	.17	5	2⅛	8¾	2⅝
9½	7⅛	9⅛	8⅝	8⅝	Lone Star Gas	5,553,747	N.P.	20c	8-21-39	.60	.88	1.14	10⅝	6⅝	14¼	5¼
7¾	4	6⅛	5	6	Louisiana Land & Exp.	2,977,449	$1	10cQ	9-15-39	.45	.45	.58	9⅜	6½	15¼	6¾
17	14½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-39	1.00	2.28	3.26	24	16	33½	17
8¾	6⅝	7½	7½	7½	Midwest Oil Co.	998,474	$10	45c	6-15-39	1.00	.93	1.14	9¾	6⅝	14⅝	6¼
5⅜	4⅞	5⅝	5⅛	5½	Mountain Producers	1.593,584	$10	30cSA	6-15-39	.60	.62	.76	5⅝	4½	7⅞	4⅛
13¼	11¼	12⅝	12	12¼	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-39	1.00	.84	.96	14⅝	11½	19½	12
8½	7¼	8¼	8⅛	8¼	National Transit	509,000	$12.50	35c	6-15-39	.75	.88	1.19	9¼	6½	12½	7¼
1¾	1½	1⅝	1½	1½	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	..	.02	.02	2⅝	1½	5	1⅜
4⅞	4	..	..	..	New York Transit	100,000	$5	15c	4-15-39	.25	.16	.49	4½	3½	5⅜	3⅜
6	4½	5½	5¼	5½	Northern Pipe Line	120,000	$10	15c	6-1-39	.35	.24	.78	6	4	12⅜	5⅝
7⅝	4	6¼	5⅛	6¼	Pantepec Oil	2,857,000	$1	....	....	....	....	....	7¾	3½	9⅝	2⅝
2¾	1¼	2¾	2	2½	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.17	—.17	4½	1⅝	12⅜	2
3	1⅛	2½	2	2½	Ryan Consolidated	298,931	N.P.			....	.29	.46	4	2⅛	6½	2¼
4¼	3½	4	4	4	Southern Pipe Line	100,000	$10	15cSA	9-1-39	.30	—.27	.85	5⅝	3¼	7¼	3⅜
36	26¾	36	31	35	South Penn Oil	1,000,000	$25	37½cQ	9-29-39	1.75	1.44	4.64	39	28¾	56	35
19¾	18	..	..	..	Southwest Penna. Pipe Lines	35.000	$50	50cQ	7-1-39	2.00	—.41	.95	22¼	16½	42	20
18⅞	17¼	18⅞	18	18¾	Standard Oil of Kentucky	2,604,790	$10	25c	9-15-39	1.25	1.45	1.60	18¾	15	21⅛	14¾
17¼	6	17	17	17	Standard Oil of Nebraska	161,403	$25	25c	3-29-37	....	—.69	—.58	8¾	5½	13¾	8
26¾	17	26¾	23	23½	Standard Oil of Ohio	753,740	$25	25c	9-15-39	1.00	1.81	3.67	22¾	16¼	45	16
2¾	1¾	2¾	2⅛	2½	Sunray Oil	2.007,076	$1	5c	4-27-39	.05	.23	.42	3¼	2	4⅞	2
4	2⅝	3¾	3	3¾	Texon Oil & Land	936,024	$2	10c	6-30-39	.60	.56	.51	5¼	3½	7⅝	2
6	2½	6	5	5	Transwestern Oil Co.	750,000	$10	....	.....	....	—.12	.48	7⅝	4¼	13⅞	4⅝
3⅜	1⅝	3	2⅜	2⅜	United Gas Corp.	7,818,959	$1	....	.....	...	—.51	.25	5¼	2⅝	13⅞	3

†Includes extras. ‡Payable in Canadian funds. —Deficit.

Personal Paragraphs

FRED M. KELLER has been placed in charge of a land and lease department which British-American Oil Producing Co. has added to its Los Angeles office.

H. A. STUART, H. T. WYATT, E. DeGOLYER, B. H. SAGE, W. N. LACEY, W. M. MORRIS, MARTIN VAN COUVERING, STANLEY HEROLD, WALKER CLUTE, JOHN E. SHERBORNE, READ WINTERBURN, MORTIMER KLINE, E. K. PARKS, F. B. VAUGHN, R. N. BURNETT, GAIL LARKIN, H. T. BYCK, CARLTON BEAL, G. F. OLSON and EUGENE WAGGONER will present papers or discuss pertinent subjects at the annual fall meeting of A.I.M.E. to be held in Los Angeles October 19 and 20.

S. D. BUTCHER, formerly in charge of the Houston, Tex., district for the Midstates Oil Corp., is now located at Wichita, Kans.

DR. RUDOLPH SCHIDER, chief geologist of the Asiatic Petroleum Co., New York, sailed from New York last week en route to Venezuela.

JOE EASON, with the production department of the Sinclair Prairie Oil Co., at Troup, Tex., has been transferred to the company's offices at Houston.

HEATH RENFRO, engineer for the Texas Railroad Commission in the Gulf Coast district, is spending a 2 weeks' vacation in the Panhandle and west Texas districts.

W. S. REID, manager of the International Petroleum Co. in Lima, Peru, terminated a visit in the United States and Canada last week and returned to South America by way of La Guaira, Venezuela.

MR. and MRS. ADOLPH SCHORMAN of Bradford, Pa., observed the fiftieth anniversary of their marriage on September 10. Mr. Schorman has been a prominent oil producer in the Bradford field for 50 years.

E. E. "SLICK" JACKSON, formerly associated with the Grogan Oil Co., Shreveport, La., has been appointed sales manager of the Premier Oil Refining Co. of Texas, handling products from the Longview and Baird, Tex., and the Cotton Valley, La., refineries.

J. E. JOHNSON, head of the motor transport department, Tide Water Associated Oil Co., Tulsa, spent his vacation fishing on the Gulf Coast.

GEORGE H. ROTH, who has been a member of Shell Oil Co., Inc.'s Long Beach, Calif., office for several years, has been appointed chief field scout of Los Angeles Basin.

GORDON BIGHAM, who was recently moved to Midland, Tex., from Kilgore, has been appointed deputy supervisor of the eighth (Midland) district of the Oil and Gas Division of the Texas Railroad Commission. He succeeds W. R. BOWDEN, deputy supervisor at Midland for the past several years.

PAUL L. LYONS, chief scout of the Standard Oil Co. of Indiana, returned last week from a vacation in California. During his absence his post was filled by JACK LEVERING, who has returned to Houston.

G. M. GILLESPIE, Fort Worth, Tex., independent operator, has returned to Fort Worth from a several-weeks vacation, part of it being spent in the mountains of Colorado and part at the San Francisco exposition in California.

J. C. OHAVER, independent oil operator of Tulsa, and Mrs. Ohaver, who motored to New York City and sailed on the President Polk for a cruise through the Panama Canal, are now enjoying a trip along the Pacific Coast.

A. T. JERGINS, president of Jergins Oil Co. and Jergins Trust, was in Italy when the war began; Misses Williametta and Alice Keck, daughters of W. M. KECK, president of Superior Oil Co., were in London, but according to late reports all are en route home.

J. D. SANDEFER, JR., Breckenridge, Tex., is the general chairman for the homecoming convention in conjunction with the celebration of the twentieth anniversary of the Breckenridge oil boom. A gala program has been arranged for the 2-day festival scheduled for September 22 and 23.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

The British Admiralty has asked for bids on 59,000 tons (362,500 bbl.) of fuel oil. The Gulf Coast fields produce fuel oil but the total daily production of the Gulf Coast fields is only 33,500 bbl. per day.

George Moody, of Titusville, Pa., sails from Singapore for America on an Italian liner on Sunday, September 17. For 4 years he has been in charge of operations in Sumatra, Borneo, and Java, for a Dutch concern. After a long visit in Titusville he will proceed to the Mid-Continent fields, where much has happened during his foreign residence.

The Prairie Oil & Gas Co. had in storage 49,464,873 bbl. of crude oil on August 31, and is adding to it daily with oil from the Cushing field at 65 cents per barrel.

20 YEARS AGO

Jackson Barnett, Creek Indian oil royalty owner and millionaire, has just contributed $200,000 to the Baptist Church's $75,000,000 campaign fund. Barnett recently subscribed $25,000 to the Henryetta, Okla., Baptist Church.

Rig builders in the Butler County fields in Kansas are demanding $23 per day for 8 hours' work. They have been getting $15 per day, but claim the height of the derricks is being steadily increased and the lumber heavier, and harder to handle.

10 YEARS AGO

Oklahoma Corporation Commission orders the Oklahoma city field shut in for 30 days, effective September 12. The producers in the field asked for it.

The Seminole field in Oklahoma produces 321,870 bbl. per day and Oklahoma 747,895 bbl. per day.

Twenty representative oil stocks averaged $60.40 per share on New York exchanges, on September 14.

O. P. NEWMAN, formerly in the Texas Railroad Commission offices at Houston, has been promoted to district supervisor of the Gulf Coast district.

A. F. BRICE, attorney for Lago Petroleum Co., was among passengers sailing from New York last week en route to Curacao, Netherland West Indies.

F. B. BIMEL and B. A. MYERS, directors of the International Petroleum Co., Toronto, Canada, left last week aboard the Santa Rosa en route to La Guaira, Venezuela.

NATHAN LYNCH, Gladewater, Tex., oil operator, has purchased the Kilgore refinery of the Lacy Refining Co., and is operating the plant under the name of the Lynch Refining Co.

NOEL EVAN, geologist for the Tide Water Associated Oil Co., at Houston, Tex., has been sent to Corpus Christi to relieve JIM BALLARD of that office, who is on his vacation.

BYRON B. BOATRIGHT, of Parker, Foran & Boatright, consulting engineers, returned to Houston, Tex., last week from a three months' stay in Canada where he did consulting work for the Canadian Government.

J. H. SENIOR, a retired director of the Standard Oil Co. of New Jersey and former president of the West India Oil Co., sailed from New York last week on an 18-day cruise to Curacao, Venezuela, Colombia, Panama and Haiti.

D'ARCY M. CASHIN, consulting geologist of Houston, Tex., has returned from a vacation in Paso Robles, Calif.

FRANK SHAFFER, geophysical scout of Texas Co. at Litchfield, Ill., and Mrs. Shaffer are spending a vacation in Tulsa.

ALBERT PLUMMER, independent operator of Houston, Tex., has returned from an extended vacation trip to Colorado.

E. B. HUTSON, paleontologist for Standard Oil Co. of Louisiana at Shreveport, La., has been on vacation in Mexico City.

J. S. LEACH, executive vice president of the Texas Co., at Houston, Tex., has returned to his desk after a vacation at Bishop's Lodge in Santa Fe, N. M.

RALPH T. ZOOK of the Sloan & Zook Co., Bradford, Pa., was in Shreveport, La., recently inspecting the deep Lisbon field test in which his company is interested.

KARL W. REYNOLDS, former geologist of Tulsa and now with Midwest Production Co. at Vincennes, Ind., suffered the loss of his left arm recently, following a motoring accident. He is at the Good Samaritan Hospital at Vincennes.

COL. ERNEST O. THOMPSON, chairman of the Interstate Oil Compact Commission and member of the Texas Railroad Commission, has been invited to testify before the Temporary National Economic (Monopoly) Committee during hearings on the oil industry to start September 18 at Washington, D. C.

Enough to Look After

When it is considered that Sidney A. Swensrud, recently made a vice president of Standard Oil Co. of Ohio, supervises the procurement of crude oil and other supplies, the construction and operation of crude oil and gasoline pipe lines, the coordination of refinery output with sales requirements, and the movement of refined products to sales bulk plants, there is prompt agreement that he has enough to look after.

SIDNEY A. SWENSRUD

Mr. Swensrud was born on a farm near Northwood, Iowa; attended the Northwood High School, and then, in 1923, graduated from the University of Minnesota. He spent the next 2 years with Washburn-Crosby in sales analysis work, followed by 2 years at the Harvard School of Business, from which he graduated in 1927. For about a year he served as a member of that institution's faculty, in the marketing research department. He joined Standard of Ohio August 1, 1928, as assistant to the president and as head of the department of business research, with special emphasis on marketing studies. With the company's increasing interest in direct crude oil purchasing and production and in pipe-line transportation, Mr. Swensrud for several years has devoted virtually all his time to these problems. He resides in Cleveland, Ohio, and has two children.

W. C. SPOONER, consulting geologist of Shreveport, La., is spending his vacation in Mexico.

E. A. HOLBIEN, vice president of the Standard Oil Co. of New Jersey, is spending a vacation at Lake Placid.

L. P. TEAS, chief geologist for the Humble Oil & Refining Co., at Houston, Tex., is on a two months' leave of absence.

E. FLOYD MILLER, geologist with the Oliphant Oil Co., Shreveport, La., returned recently from a vacation in Mexico.

SHEP MIERS, of Tulsa, and his family, have returned from a three weeks' visit to Calgary and other Canadian oil centers.

W. H. SPEARS, assistant superintendent of exploration for the Union Producing Co. at Houston, Tex., left last week for a vacation in Colorado.

D. D. BRUTON, independent operator of Houston, Tex., has returned to Houston after an extended vacation through Nova Scotia, Quebec and other Canadian points.

G. M. KNEBEL, who recently moved from the managership at Carapito, eastern Venezuela, to the executive staff of Standard Oil Co. of Venezuela at Caracas, has been promoted to the executive staff of the producing department in New York.

JOHN W. BRICE, of the producing department of Standard Oil Co. (New Jersey), who recently visited Tulsa, has been transferred to Caracas, Venezuela, as executive assistant to H. E. LINAM, president of Standard Oil Co. of Venezuela and general manager of Venezuelan operations.

MELVIN CAMPBELL, landman for the Sun Oil Co., Dallas, Tex., is back at his duties after a stay in the hospital following an emergency appendectomy.

F. M. ROSENKRANS, of Midwest Gas Association, with offices in Kansas City, Mo., is spending a vacation in southern California but will return to his office within the next week or 10 days.

W. M. ANDERSON, vice president of Standard Oil Co. of Brazil, has been elected president of the company, which he joined 19 years ago as a shipping clerk at Rio de Janeiro. A graduate of the University of Minnesota in 1916, he studied law and economics in England in 1919 and was granted his LL.B. by the Minnesota Law School.

W. G. OSBORN, geologist, Douds, Iowa, was in Tulsa and Oklahoma City this week conferring with oil men regarding activity in the Forest City basin. Publication of his geological reports on the basin largely was responsible for the lease boom in the Missouri, Iowa, Kansas, and Nebraska sectors of the basin last fall, resulting in the wildcat drilling activity now under way. He is confident oil eventually will be found in commercial quantities in the basin.

JOE TERRELL, assistant superintendent for Amon G. Carter oil interests in West Texas, was injured last week when a derrick was pulled in while tubing was being pulled. His injuries consist of a crushed left hip and ankle.

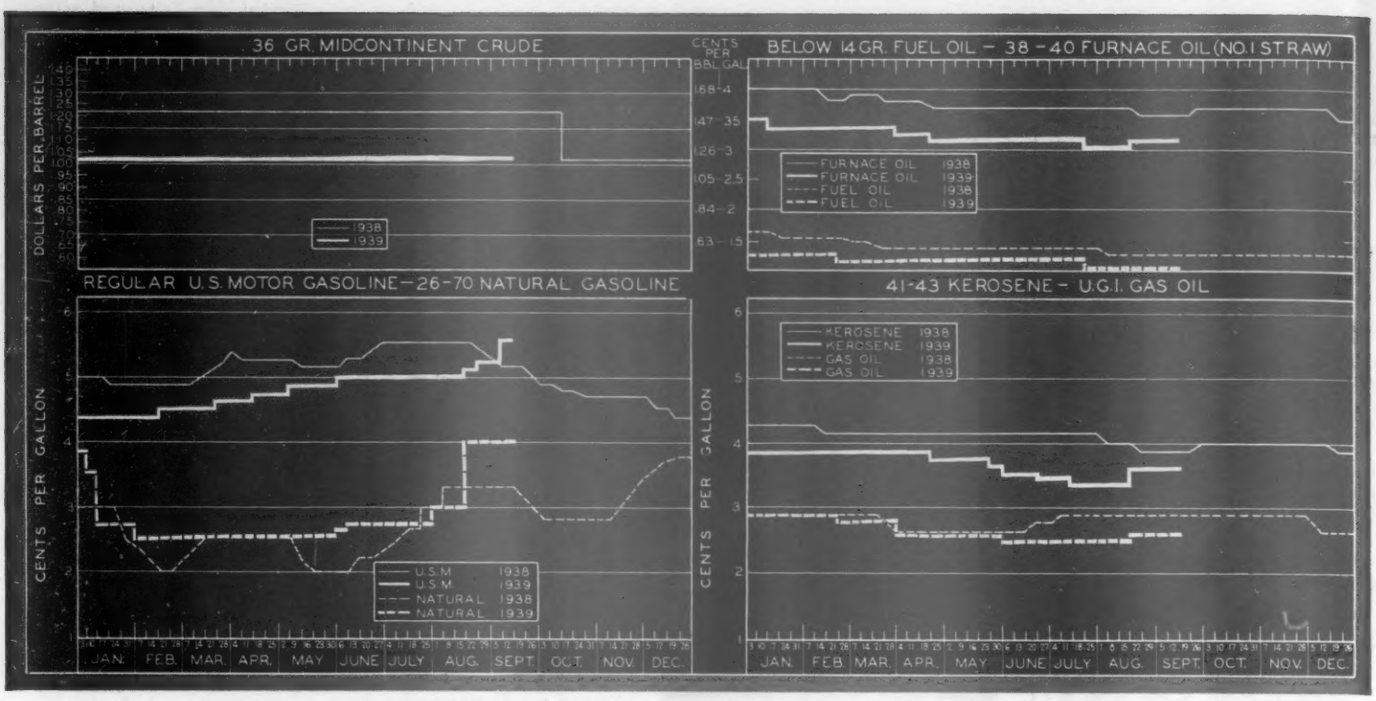
Shifts: THOMAS B. SCOTT, JR., manager, Brookhaven Oil Co., from Springerville, Ariz., to Tulsa; BOB O. BIRD, production superintendent, Phillips Petroleum Co., from Marlow, Okla., to Perry, Okla.; H. G. SHOOK, superintendent, Texas Co., from West Columbia, Tex., to Conroe, Tex.; E. C. HEIDRICH, JR., manager, Black-Knight Oil Co., from Northport Point, Mich., to Peoria, Ill.; PAUL S. WILLIAMS, geologist, from Honolulu, Hawaii, to Oakland, Calif.; STANLEY S. SIEGFUS, geologist, Socony-Vacuum Oil Co., from Caracas, Venezuela, S. A., to Ciudad Bolivar, Venezuela, S. A.; E. L. LANDRETH, superintendent, Landreth Production Corp., from Corpus Christi, Tex., to San Antonio, Tex.; HARVEY WHITAKER, manager Bridwell Oil Co., from Wichita Falls, Tex., to San Antonio, Tex.; CHESTER IMES, president, United Petroleum Co., from Evansville, Ind., to Tulsa; WILLIAM S. WALLS, superintendent, Phillips Petroleum Co., from Bartlesville, Okla., to Houston, Tex.; THOMAS W. KEATING, engineer, Stanolind Oil & Gas Co., from Hackberry, La., to South Houston, Tex.

WADE SMITH has joined the Magnolia Petroleum Co., Dallas, Tex., scouting department. He replaces ROBERT HARLESS, recently sent to Shreveport for active scout duty with the company.

HOWARD BOYD, formerly chief scout for the Magnolia Petroleum Co., Dallas, and now landman at Evansville, Ind., spent several days last week visiting old friends in Dallas while on a tour of several Texas cities.

G. W. CAUGHRON, Gulf Oil Corp. scout at Oklahoma City for several years, has been transferred to Roswell, N. M., replacing G. DOROUGH, who was transferred to Mattoon, Ill. J. J. BURKE, veteran scout working out of the Holdenville, Okla., office, succeeds Caughron at Oklahoma City.

EDWARD C. BORREGO, who has been connected with the Illinois and Mid-Continent operations of the Carter Oil Co. over the past year, will leave New York for Venezuela the latter part of the month. He will be superintendent of the Pedernales operations in eastern Venezuela of the Standard Oil Co. of Venezuela (Creole Petroleum Corp.) Previous to joining the Carter organization, Mr. Borrego was assistant production superintendent of the Huasteca Petroleum Co. in Mexico.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Mid-Continent Refiners Mark Time In Anticipation of Higher Prices

By T. F. SMILEY

Too far removed from immediate export activities, the Mid-Continent refining industry has not seen fit to advance product prices in keeping with the war psychology that is influencing advances in most basic commodities. With actual fighting in progress there seems to be little doubt but that the United States will be called upon for greater supplies of all refinery products. However, any benefits such a movement will offer the Mid-Continent are expected to come indirectly and slowly.

As a result of the feeling that prices are likely to advance over the early future there is a strong tendency for Oklahoma refiners to hold their present stocks. They avoid price commitments on future deliveries except on the "market date of shipment" basis. Their general comment on the subject is "if this country is called upon to supply more export material the inquiries will first go to the Gulf and East coasts, and it will not be until after the stocks and production of these plants are absorbed that export inquiries will come to the Mid-Continent."

Mid-Continent refiners are now able to evaluate the effects of the 15-day shutdown of oil wells in six states and in terms of its effect upon refined-oil markets. In summary, the shutdown did little more than eliminate "distress" low-octane gasoline and give a stronger general tone to the market. It was not a signal to advance prices.

Now that crude-oil production has been resumed in all of these states and the effect of the shutdown may be measured on a national scale in terms of refinery operations and stocks, two factors forcefully present themselves. During the shutdown stocks of crude oil in the United States were reduced from 262,486,000 bbl. on August 19 to 236,843,000 bbl. on September 2, or a drop of 25,843,000 bbl.

By the end of the period it became apparent that major companies were relatively little better off than small units so far as crude stocks were concerned. The majors had been following a program of keeping their reserves in the ground instead of in tanks. Therefore, by the close of the shutdown period it was generally conceded that crude stocks generally had been reduced to a point near the working margin. In view of this, the refinery market situation was basically stronger but as the shutdown was lifted consideration was directed toward individual refinery operations.

So far as the Mid-Continent is concerned, these operations remain in September at about the same rate as a year ago and only 5,000 bbl. under a month ago when a peak for the year to date was established. The conclusion to be drawn from these data and to be confirmed by a monthly survey of refinery operations in the Mid-Continent area is that the full market effect of the shutdown has been passed.

The general remarks regarding the Mid-Continent market made previously apply principally to gasoline, kerosene and fuels and a modified condition is obtained for neutrals, bright stocks and wax. The latter commodities are being absorbed at a relatively fast rate along the Gulf Coast so Mid-Continent plants anticipate a stronger market as a result. Quotations on all such materials are being handled on a day-to-day basis.

Relatively small quantities of neutrals are in storage in the area while substantial quantities of bright stocks remain. However, the latter are in strong hands.

Wax is another product which is acting out of harmony with the general market. Refiners are not willing to make commitments over the future and look toward increased business among domestic consumers but as a direct result of war. The increased use of packaging or weatherproofing for shipment is given as the reason for anticipating better prices.

Refined Oil Market Barometer

Although increasing quantities of most refinery products are expected to move for export as a result of the war, at no point is there a rush to push prices upward. There appears to be a plentiful supply of all commodities sought thus far. High-octane gasoline, light fuels and motor oils are receiving the greatest attention.

MID-CONTINENT. No general price changes. High-octane gasoline, neutrals, bright stocks, and wax strong.

EAST COAST. Prospects of increased exports strengthened all commodities.

GULF COAST. Scattered export inquiries bolstering market with high-octane gasoline, light fuels, wax and neutrals especially strong.

CALIFORNIA. Retail gasoline weak. Neutrals plentiful. No general price changes in list.

PENNSYLVANIA. Stronger tone but no general price advances. Wax strong.

CHICAGO. Prices marking time.

Eastern Market Is Strengthened

Anticipating War Demands

By H. STANLEY NORMAN

NEW YORK, Sept. 12.—The combination of last month's production shutdown and the anticipated European war demand served last week to bring the first substantial primary-market improvement in motor fuel since June. Following motor-fuel prices into higher ground was the market for light heating oils, largely because of seasonal conditions, but also because of their inclusion in the category of diesel oils.

Lubricating oils, particularly Pennsylvania bright stocks and neutrals, but also extending to the South Texas and Mid-Continent grades, have maintained their advances of the preceding week. The market position of all lubricating materials is consolidated at the higher ranges and several observers anticipate that another advance is within reasonable expectancy over the next 10 days or 2 weeks.

Based on the inquiries reaching the American market, the European countries at war, as well as neutral nations in position to supply the belligerents, are unprepared to meet the greater lubricating-oil demand created by actual combat and behind-the-lines activity. Accumulation of stocks in most of the belligerent countries has been focused on motor fuel, diesel oil, and heavy fuel oils for naval consumption.

Marketers had difficulty last week in sifting the chaff from the wheat in inquiries for export petroleum products. Many of the inquiries doubtless originated from sources willing to speculate on substantial price advances; and this class of business was receiving scant attention from a majority of suppliers. Refiners in general have taken the position that they are in sound position to ride the market upward if the advances expected by some of the more speculative investors develop; and in this attitude they are not particularly anxious sellers.

Since the spirited trading of 10 days ago by Scandinavian countries in the Gulf Coast market, there has been little actual export business closed outside of the normal deliveries or loadings against contracts. There is still much confusion among American refiners and tanker owners as to just how much freedom they will be permitted in sailings beyond American waters. Dispatches from London late last week, announcing that the British Admiralty would exercise full rights of a belligerent nation, implied that vessels, regardless of registry, would be subject to search and seizure, or inspection in a British port. This announcement was considered applicable to all vessels en route to German ports and virtually ends the possibility of moving oil to the Reich in American flag tankers despite the neutral position of this country.

An important factor in last week's advances in the primary and secondary motor-fuel markets of the Gulf and East coasts is the activity of domestic jobbers and distributors to cover their near and long-term requirements at the lowest possible figures. This move indicates that many observers of petroleum markets expect the war demand to exercise an even greater influence on prices within the comparatively near future.

The anticipation of higher refined prices has filtered down throughout the marketing and refining phases of the industry, according to interpretations placed on current developments in New York. The refiners, on the one hand, have moved prices forward in anticipation of European demand at higher figures, and distributors are anxious to cover their requirements even at the elevated costs now prevailing.

The war situation has also exercised a marked influence on the tanker-charter rates. Boat owners are asking from 6 to 9-cent per barrel higher rates than existed 2 weeks ago. Four clean tankers were reported fixed last Friday for Gulf-port loading and delivery north of Cape Hatteras at rates ranging from 22 to 25 cents per barrel. Boat owners were reported last Saturday asking as high as 28 cents per barrel for the Gulf-to-Hatteras trade, although no fixtures had been made at this higher rate when the week closed.

Tanker rates for trans-Atlantic delivery have moved forward even more briskly than the coastwise price. The last fixture in foreign trade reported was for a clean tanker from the Gulf to Scandinavian countries at $6.90 per ton. Boat owners were reported later in the week asking $9 per ton for the same trip. The trans-Atlantic trip rates are doubtless predicated to some extent on the demands of seamen that they receive bonuses ranging from $200 to $400 for sailings that will require movement through European waters.

On the northern Atlantic Coast at New York, Philadelphia and Boston, at least two of the independent distributors have advanced their tank-car and barge gasoline prices a half cent per gallon to 6½ and 6¼ cents per gallon, for the respective classes of delivery. The major refining-marketing companies had made no change in their tank-car quotations for the North Atlantic seaboard at the end of the week, but there was the possibility that action may be taken by the middle of the current week. The primary Gulf Coast market is in a state of confusion with low-octane motor fuel selling at a range of 5¾ to 6¼ cents per gallon. Motor fuel meeting higher octane specifications, 72-74, was reported bid in the export market as high as 7 to 7⅛ cents. The supply of material meeting the higher octane specifications suitable for blending up to aviation requirements was reported strictly limited. The limited supply is the outgrowth of two factors. The production shutdown in the last half of August prevented many refiners from operating on the more desirable types of crudes; and those with exportable quantities of high-octane motor fuel on hand are not anxious sellers at the moment. In the event of greater use of aircraft in the European fighting and development of a major engagement on the French-German frontier the demand for high-octane motor fuel will be stimulated materially in this country with price a minor consideration.

The stronger tone of the light fuel-oil market is considered to have developed practically independent of war influences, since there is a substantial improvement in domestic demand at hand and in prospect for the approaching winter season. Most sellers are quoting No. 2 fuel oil in tank cars at New York Harbor refineries at 4 cents per gallon, although one or two independent suppliers elevated their quotations late last week to 4¼ cents in barges and 4⅜ cents per gallon in tank cars, indicating a stiffer market on the Gulf Coast. The tank-wagon price generally quoted in the metropolitan New York area for No. 2 and No. 4 fuel oil for current delivery is 6 cents per gallon. New York and New Jersey over-the-winter contracts mostly carry a maximum guarantee of 6½ cents for the 1939-40 burning season, which is down from a half to three-quarters of a cent from the top range of the preceding winter.

Bunker C fuel oil, which is inti-

(Continued on Page 119)

A. P. I. Weekly Refinery Statistics

Week Ending September 9, 1939

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	580,000	20,213,000	12,360,000
Appalachian	85.9	113,000	2,946,000	641,000
Indiana, Illinois, and Kentucky	89.5	492,000	11,064,000	6,838,000
Oklahoma, Kansas, and Missouri	81.6	249,000	5,812,000	4,520,000
Inland Texas	50.3	95,000	1,580,000	2,218,000
Texas Gulf	90.0	786,000	8,283,000	12,743,000
Louisiana Gulf	97.6	145,000	2,054,000	2,927,000
North Louisiana and Arkansas	55.0	42,000	486,000	916,000
Rocky Mountains	54.2	40,000	1,076,000	656,000
California	90.0	488,000	13,750,000	94,089,000
Total reported	86.0	3,030,000	67,264,000	137,908,000
Estimated unreported	.....	350,000	4,980,000	3,245,000
*Estimated total	.....	3,380,000	72,244,000	141,153,000
*Estimated total previous week	.....	3,375,000	73,194,000	.....
*September 10, 1938	.....	3,233,000	70,399,000	148,161,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ending September 2, 1939	236,643,000 barrels
Week ending August 26, 1939	246,982,000 barrels
Week ending September 3, 1938	284,919,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of September 12, 1939

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dir.	Inc. tax	tank wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	15.1	13.6	4.0	10.0
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	13.6	4.0	10.0
Quincy	14.9	13.4	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	9.4
Minneapolis	16.5	15.0	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.0
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.1
Grand Rapids	14.0	12.5	4.0	9.7
Saginaw	15.8	13.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	15.3	5.0	†10.7
South Bend	17.1	15.6	5.0	†10.0
Fargo, N. D.	17.7	16.2	5.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	13.2	4.0	8.0
St. Joseph	14.4	12.9	4.0	7.9
Wichita, Kans.	13.9	10.6	4.0	7.4

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective June 1, 1939, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gal., 9 cents; 100-149 gal., 8 cents; 150 gal. and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex furnace oil, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex Grade A, 1-399 gal., 5 cents; 400 gal. and over, 4 cents. Stanolex Grade B, 1-799 gal., 5 cents; 800 gal. and over, 4 cents. Stanolex Grade C, 1-999 gal., 4.25 cents; 1,000 gal. and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Tank-wag. cons'r.	Dividved dlr.	Inc. tax	Kero. tank wag.
Ohio points	15.5	14.5	5.0	*13.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Cons'r. tank car	Dir. tank wag.	Inc. tax	tank wag.
Atl'tic City, N. J.	11.6	12.7	4.0	7.0
Newark	11.6	12.7	4.0	7.0
Annapolis, Md.	12.85	14.35	5.0	9.5
Baltimore	12.25	13.75	5.0	7.0
Cumberland	13.65	16.15	5.0	10.0
Wash'gton, D. C.	10.50	12.0	3.0	9.5
Danville, Va.	14.45	16.95	6.0	12.9
Norfolk	13.25	15.75	6.0	10.5
Petersburg	13.55	16.05	6.0	11.7
Richmond	13.55	16.05	6.0	10.7
Roanoke	14.75	17.25	6.0	11.0
Charles'n, W. Va.	14.05	16.55	6.0	12.6
Parkersburg	13.35	14.85	6.0	11.2
Wheeling	14.35	15.75	6.0	12.2
Charlotte, N. C.	15.40	17.90	7.0	11.8
Hickory	15.95	18.45	7.0	12.3
Mt. Airy	15.80	18.50	7.0	12.2
Raleigh	15.15	17.65	7.0	11.5
Salisbury	15.45	17.95	7.0	11.9
Charleston, S. C.	14.25	16.75	7.0	10.6
Columbia	15.10	17.60	7.0	11.5
Spartanburg	15.80	18.30	7.0	12.2

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gallons or more, consumer tank-wagon price. Single deliveries of less than 50 gallons, 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less .5 cent per gallon. The above policy also applies in South Carolina effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Cons'r. tank-wag.	Net dlr.	Inc. tax	tank-wag.
Atlanta, Ga.	20.0	17.0	7.0	9.0
Augusta	20.0	17.0	7.0	9.0
Macon	20.0	17.0	7.0	10.0
Savannah	19.0	16.0	7.0	8.0
Birmingham, Ala.	21.0	18.0	8.0	8.5
Mobile	21.0	18.0	9.0	8.5
Montgomery	22.0	19.0	9.0	10.5
Jackson, Miss.	19.0	16.0	7.0	9.5
Vicksburg	19.0	16.0	7.0	9.0
Jacksonville, Fla.	20.0	17.0	8.0	8.0
Miami	19.5	16.5	8.0	8.0
Pensacola	21.0	18.0	9.0	8.0
Tampa	19.5	16.5	8.0	7.5
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	17.5	14.5	6.0	9.5
Louisville	18.5	15.5	6.0	9.0
Paducah	17.0	14.0	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
Philadelphia, Pa.	12.0	13.5	5.0	10.0
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	12.5	14.0	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	13.0	14.5	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.	...	14.0	5.0	10.5
Wilmington	...	13.5	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon.

*Voluntary discount of 1 cent allowed to dealers only.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
Albany	11.9	14.2	5.0	7.25
*Met. N. Y.:				
Manhat., Bronx	11.9	13.0	5.0	7.00
Queens, Br'klyn	11.9	13.0	5.0	7.00
Staten Island	11.9	13.0	5.0	7.00
Buffalo	12.5	13.5	5.0	7.50
Rochester	12.8	14.0	5.0	7.75
Syracuse	12.4	14.4	5.0	7.50
Boston	10.8	12.25	4.0	6.75
Portland, Me.	11.8	13.8	5.0	7.00
Manchester, N.H.	12.5	14.7	5.0	7.50
Burlington, Vt.	12.4	13.5	5.0	7.50
Springfield, Mass.	11.5	12.5	4.0	6.25
Worcester	11.4	13.0	4.0	7.25
Hartford, Conn.	11.2	13.3	4.0	6.75
New Haven	11.1	13.01	4.0	6.25
Providence, R. I.	10.8	12.8	4.0	6.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and New England points for tank-wagon delivery to the following: Annual purchases 10,000 gallons and under, tankcar price plus 2 cents per gallon; annual purchases 10,000 gallons up to 50,000 gallons, tankcar price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gallons, tankcar price plus 1 cent per gallon; annual purchases 200,000 gallons and over, tankcar price plus one-half cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gallons receive a discount of one-half cent per gallon.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank-truck	Serv. sta.	Inc. tax	tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	20.0	21.0	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	†13.75
Spokane	21.5	22.5	6.0	†16.75
Tacoma	20.0	21.0	6.0	†13.75

*Includes 5-cent state tax. †Includes .25-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

March 18, 1939, split dealer discount was canceled.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank-wag.	Dir.	Incl. tax	tank-wag.
Denver, Colo.	15.5	...	5.0	11.5
Grand Junction	18.5	...	5.0	15.0
Pueblo	16.0	...	5.0	9.0
Casper, Wyo.	17.5	...	5.0	11.5
Cheyenne	15.5	...	5.0	13.0
Billings, Mont.	18.5	...	6.0	13.0
Butte	20.0	...	6.0	15.5
Great Falls	19.5	...	6.0	15.5
Helena	20.5	...	6.0	15.5
Salt Lake, Utah	17.5	17.5	5.0	16.0
Boise, Idaho	20.6	20.6	6.0	18.0
Twin Falls	21.1	21.1	6.0	18.0
Albu'que, N. M.	17.0	17.0	6.5	10.0
Roswell	15.5	15.5	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of .5 cent. †Includes state tax of 1 mill.

Tank-wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
New Orleans, La.	16.75	19.25	*10.0	†11.0
Baton Rouge	14.75	17.25	8.0	‡10.5
Alexandria	14.75	17.25	8.0	‡12.5
Lafayette	15.00	17.50	8.0	‡11.0
Lake Charles	14.75	17.25	8.0	‡12.5
Shreveport	13.50	16.00	8.0	‡11.0
Knoxville, Tenn.	18.00	20.50	8.0	14.5
Memphis	16.00	18.50	8.0	11.0
Chattanooga	17.5	19.5	8.0	12.0
Nashville	17.00	19.50	8.0	11.0
Bristol	18.25	17.00	8.0	13.0

Essolene at dealer price less .5 cent per gallon to undivided dealers.

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon; 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline			Kero.
	Tank wag.	Dir.	Inc. tax	tank wag.
Omaha	17.5	16.0	6.0	10.3
McCook	16.5	15.9	6.0	9.0
Norfolk	17.0	15.9	6.0	9.0
North Platte	18.3	16.8	6.0	11.1
Scottsbluff	18.0	15.0	6.0	11.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Tank wag.	Includes tax	tank wag.
Texarkana, Ark.	14.0	5.0	8.0
Fort Smith	14.0	5.0	7.5
Little Rock	16.75	7.5	8.0
Muskogee, Okla.	13.0	5.0	7.0
Oklahoma City	12.0	5.0	6.5
Tulsa	13.0	5.0	7.0

The tank-wagon price is the price to all classes of trade.

Texas

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Dallas, Tex.	14.0	18.0	5.0	7.0
Fort Worth	15.0	19.0	5.0	8.0
Houston	14.0	18.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank wag.	Inc. tax	Kero. tank wag.
Halifax, N. S.	23.5	10.0	17.5
St. John, N. B.	23.5	10.0	17.5
Montreal, Que.	22.0	8.0	14.5
Toronto, Ont.	23.0	8.0	15.5
Hamilton, Ont.	23.0	8.0	15.5
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	19.4	7.0	21.4
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. (Nebraska) advanced the gasoline dealer price 1 cent on Standard Red Crown in McCook, Neb., on September 1 to 15.9 cents.

(Other tank-wagon changes on Page 39)

Shale Oil Plant Will Be Built in Australia

V. V. Jacomini is en route from Houston, Tex., to Sidney, New South Wales, Australia, where he will build a 75-ton per day shale-oil retort to test the oil yield from oil shale taken from the Standard Oil Co. of Australia, Ltd.'s Baerami deposits in the vicinity of Sidney. This Standard is not connected with any of the Standard Oil companies in the United States.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of September 12, 1939

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.05
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
60-62 400 grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05¼
70-72 octane (regular)	.05½	.05¾
64-66 375		.04⅝
68-70 360	.05	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.05
67-69 octane	.05	.05¼
70-72 octane (regular)	.05⅝	.05½
60-62 400	.04½	.04⅝
64-66 375		.04⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.05
67-69 octane		.05¼
70-72 octane (regular)		.05½

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below	.04½	.04¾
67-69 octane	.05	.05¼
70-72 octane (regular)	.05⅝	.05½

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05¼
70-72 octane (regular)	.05¼	.05½
60-62 400 grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.05
67-69 octane	.05	.05¼
70-72 octane (regular)		.05½
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.04½	.05
65 octane	.06¼	.06¾
68-70 octane		.06½

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06¼	.08
58-60 400, 65 oct. and higher	.07¼	.09

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06	.06½
Philadelphia	.06	.06½
Baltimore	.06	.06½
Charleston, S. C.	.06¾	.07

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ⅛ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05	.05½
65-67 octane	.05¼	.05⅝
68-70 octane	.06	.06½

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¼	.04½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.04
Grade 18-55	.04⅝	.04⅞

NORTH TEXAS—

Grade 26-70		.04
Grade 18-55		.04⅝

CALIFORNIA—

75-85 375-390	.05½	.06½

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.04⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 i.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03¾
46-48 gr., 210-230 i.b.p., 480-max., e.p.	.03⅞	.04⅛

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅝	.03¾
42-44	.03¾	.03⅞

NORTH TEXAS—

41-43	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03⅝	.04

ARKANSAS (Ark. and N. La. del.)—

41-43	.04¼	.04¼

PENNSYLVANIA (inland refineries)—

45	.04⅞	.05
46	.05	.05⅛
47	.05⅛	.05¼

CHICAGO (Based on Group 3)—

41-43	.03⅝	.03¾
42-44	.03¾	.03⅞

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.05¾

NEW YORK (Bayonne, N. J.)—

41-43		.04⅝

***GULF COAST (domestic)—**

41-43		.04½

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03⅜	.03½
No. 1 prime white, 38-42	.03¼	.03⅜
No. 1 straw, 38-40	.03⅛	.03¼
No. 2 straw, 32-36	.03	.03¼
No. 2 dark, 32-36	.02¾	.02⅞
No. 3 zero to 15, 28-32	.02¾	.03
No. 3, 15 and above, 28-32	.02½	.02⅝

NORTH TEXAS—

No. 1 prime white, 38-42	.03¼	.03⅜
No. 1 straw, 38-40	.03⅛	.03¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03	.03⅛

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.03⅜	.03½

CHICAGO (Based on Group 3)—

Range oil	.03⅜	.03⅝
No. 1 prime white, 38-40	.03⅜	.03½
No. 1 straw, 38-40	.03⅛	.03⅜
No. 2 straw, 32-36	.03⅛	.03¼
No. 2 dark, 32-36	.03	.03⅛
No. 3, zero to 15, 28-32	.02⅞	.03
No. 3, 15 and above, 28-32	.02⅝	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1	.04	.04¼
*No. 2		.03¾
*No. 4		.03¾

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅝	.02¾
No. 4 low pour point, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.85	.90
No. 5, low pour point, 18-22	.70	.75
Below 14 fuel oil, industrial	.40	.50

NORTH TEXAS—

U.G.I. gas oil	.02⅝	.02¾
No. 4, low pour point, 24-28	.95	1.00
No. 5, low pour point, 18-22	.70	.75
Below 14 fuel oil, industrial	.40	.50

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 4, low pour point, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low pour point, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.04¼	.04⅝

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.30
24 plus diesel, per bbl.	.80	1.15
24 plus diesel (bunkers)	1.15	1.30
12-16 (bunkers at tidewater)	.70	.90
10-16 (cargo lots)	.60	.70
12-17 (tank cars)	.50	.90
10-17 (high sulfur)	.45	.85
San Joaquin Valley:		
10-18 (tank cars)	.50	.75
24 plus diesel, per bbl.	.90	1.20
San Francisco:		
24 plus diesel, per bbl.	1.30	1.45
24 plus diesel (bunkers)	1.35	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.03⅜
43-47 diesel		.03¼
48-52 diesel	.03¼	.03⅜
53-57 diesel	.03⅜	.03½
Bunker C (bulk cargoes)	.80	.85
Bunker C (bunkers)	.85	.90

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04
28-30 diesel (lighterage 6¼c per bbl.)		1.65
28-30 diesel (tank cars)	.04	.04¼
Bunker C (to ocean-going ships in N. Y. Harbor)		1.05
Industrial fuel (tank cars)		.03¾

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.15¼	.16
150-160 D, 15-25	.14½	.15
150-160 E, 15-25		.14½
100-110 D, 0-10		.14½
Steam-refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point	.19	.20
15 pour point	.18	.19
25 pour point	.16	.17
Steam refined:		
600	.08½	.10
650	.10½	.11
600 flash	.11	.12
630 flash	.13½	.14

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3	.09
180-3	.10
180-4	.09½
200-3	.10½
200-4	.10
250-3	.11½
250-4	.11
280-3	.12½
280-4	.12
300-6½	.13
400-3½	.14
100-2½ paraffin oil	.06
15-20 pour point:	
200-3	.10
200-4	.09½
250-3	.11
250-4	.10½
280-3	.12
280-4	.11½

GULF COAST—

Pale oils:		
200-3	.07	.07⅛
300-3	.07½	.07⅝
500-3½	.08½	.08⅝
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09⅝
1,500-4	.09⅝	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08⅝	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point	.18½	.19
10 pour point	.18	.18½
15 pour point	.16½	.17
25 pour point	.15	.15½
200 vis. at 70° F., 3 color:		
Zero pour point	.20	.20½
10 pour point	.19½	.20
15 pour point	.19	.19½
25 pour point	.17½	.18

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale		.03

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	2.90	3.00
124-126 (A.m.p.) w.c. scale	2.90	2.95

NEW YORK—

Wax in bags fully refined:		
123-125 (A.m.p.) wax		.0375
125-127 (A.m.p.) wax		.0390
128-130 (A.m.p.) wax		.0400
130-132 (A.m.p.) wax		.0435
133-135 (A.m.p.) wax		.0465
135-137 (A.m.p.) wax		.0490
124-126 (A.m.p) w.s.	.0290	.03
124-126 (A.m.p.) y.s.	.0295	.03
Petrolatum in barrels, carload lots:		
Dark green	.02	.02½
Amber	.02⅝	.02½
Extra amber	.02⅝	.02¾
Lily white	.05½	.05¾
Snow white	.06½	.06¼
Cream	.04⅛	.04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04¾	.05
60-62 400	.04⅞	.05½
65 octane	.05⅝	.05¾
68 octane	.05¾	.06
70 octane	.06	.06½

LOS ANGELES—

U. S. Motor grades:		
55-65 octane	.04¼	.04½
65-69 octane	.04½	.04¾
Above 69 octane	.05	.05½

KEROSENE

GULF COAST—

41-43 prime white		.04½
41-43 water white		.04½

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s) in bbls.—

Cylinder stocks:		
600 S.R. unfiltered	.15½	.16
650 S.R. unfiltered	.17½	.18
600 flash, S.R.	.18	.18½
630 flash, S.R.	.20½	.21
Bright stocks:		
8 color	.23½	.24

NEUTRAL OIL

200-3 color	.24	.24½
150-3 color	.22	.22½

PARAFFIN WAX

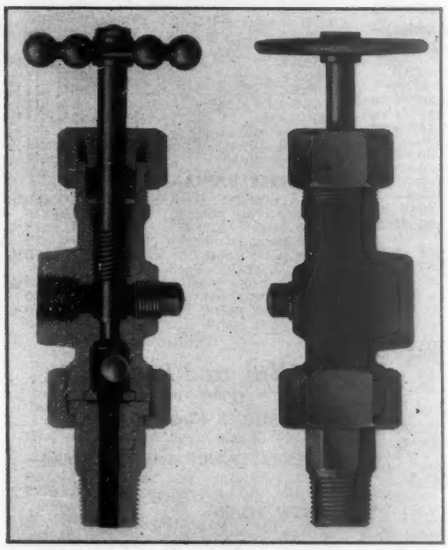
NEW YORK (prices per pound)—

123-125 A.m.p.		.03625
125-127 A.m.p.		.0375
128-130 A.m.p.		.0400
133-135 A.m.p.		.0425
135-137 A.m.p.		.0465
Crude scale:		
124-126 w.s.	.0285	.0290
124-126 y.s.	.0280	.0285

New or Improved Equipment

Penberthy Drop-Forged Valve Features Automatic Shutoff

Type 10 drop-forged steel gage valves, manufactured by Penberthy Injector Co., Detroit, Mich., are equipped with an automatic shutoff, stainless-steel balls stopping the flow of liquid in case the glass breaks. The action is positive and instantaneous. The offset feature, with a large plug in the upper body and a drain plug in the bottom of the lower body, facilitates cleaning.



Stainless-steel packing glands are provided for stem packings, to prevent torsional stress when packing nuts are drawn down. Heavy-duty stuffing boxes and packing nuts provide ample space for packing glands and packings. Union connections (tail-pipe and coupling-nut type) make it easy to install the valves on a vessel after the gage has been assembled. Material used is said to conform to or exceed requirements of A.I.S.I., A.S.T.M., and A.P.I.-A.S.M.E. specifications for recommended pressures and temperatures.

Fred E. Cooper Sales Meeting

A sales meeting for the entire Fred E. Cooper organization will be held at the Tulsa plant September 16 and 17. All field men from every division will be called in to attend this meeting, and a very interesting schedule has been planned.

Ernest Franks, head of the Allis-Chalmers power unit department of the tractor division, Milwaukee, will be a guest speaker Sunday, September 17, to present a general discussion on Allis-Chalmers engines. Fred E. Cooper is world-wide representative for Allis-Chalmers well-servicing equipment.

National Supply Co. Distributes Revised Catalogs

The National Supply Co. has published a revised edition of its catalog, covering its complete line of oil-field equipment. The new catalog, known as No. 50 and dated 1939, contains 752 pages of illustrations, descriptive material, and specifications for the products made and marketed by National Supply Co. and affiliated firms. Page sizes are larger than in former editions, making the overall book dimensions the standard 8 by 11 in.

For convenience, the new catalog uses a double-index feature. On the opening pages is the regular index, in which each equipment item is listed, using as much cross indexing as possible. In the center of the book is the "Section-Finder Index." In making up the catalog, the equipment was divided into significant groups, and the section-finder index directs the user to the pages in which each group will be found. For example, working barrels; sucker, pull, and polished rods; beam hangers; sucker-rod sockets, and grips, are all placed in one group. The section-finder index shows that this group appears on Pages 280 to 310.

Here and There With Men Who Manufacture Equipment

Lloyd G. Ensign, 30 Rockefeller Plaza, New York City, has been appointed export manager for the Line Scale Co., Inc., Oklahoma City, Okla. Appointment of the Brown Oil Tool Co., Inc., Houston, Tex., as exclusive Gulf Coast distributor also is announced by the manufacturers of Line scales.

E. C. Dilgrade, of Casper, Wyo., identified with the marketing of oil-well supplies in the Rocky Mountain area for many years, has been appointed independent sales and service representative for Security Engineering Co., Inc., of Whittier, Calif.

The new 4,000-hp. recycling plant of Coastal Recycling Corp. at Agua Dulce, Tex., will be equipped with Clark angle compressors in the new eight-cylinder, 800-hp. size. Five of these units have been ordered for immediate installation.

Smith Precision Products Co. Formed by R. Stanley Smith

Smith Precision Products Co., 1135 Mission Street, South Pasadena, Calif., has been organized by R. Stanley Smith and associates, including Thomas M. Penny, sales manager. The company will manufacture specialties for the sales and production divisions of the oil industry. Work already has started on a rotary pump which Mr. Smith has had under development and test over a period of years, and which is particularly adapted for handling gasoline and butane.

Mr. Smith is best known to the oil industry perhaps through his development and manufacture of Smith meters. His former company, the Smith Meter Co. of Los Angeles, was purchased by the A. O. Smith Corp., of Milwaukee, Wis., about 2 years ago. Since then

R. STANLEY SMITH

THOMAS M. PENNY

until recently, he has been in charge of the South Pasadena research division of the A. O. Smith Corp.

Mr. Penny, formerly with Smith Meter Co., and later with the Smith Meter Division of the A. O. Smith Corp., was branch manager for Smith meters successively in Chicago, Houston and Denver. The shop personnel of the new organization includes men who have worked with Mr. Smith for many years.

Laminated Shims Permit Quick and Easy Field Adjustments

Close adjustment of running clearance is important for the eccentric strap bearings of this "Oilwell" 7¾ by 7 in. vertical steam engine, in process of assembly

at the Oil Well Supply Co.'s plant in Oil City, Pa. Convenience in assembly and, of equal importance, easy and quick field adjustments of great accuracy are provided in this design by the use of laminated shims.

New Instrument Transformers Introduced by Westinghouse

A new line of instrument transformers is intredyced by Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa. The aim has been to reduce cost, improve accuracy, and assure continuous service. All feature insulation coordinated with A.S.A. standards. Two new current transformers, particularly suitable for metering installations on networks, were designed to meet E.E.I. specifications. They are accurate to 150 per cent load, have Hipernik cores instead of the usual silicon-steel cores, and are mechanically capable of carrying 250 times normal current.

A thorough-type current transformer, with a short-circuiting secondary block, has a high enough accuracy at heavy currents to make it possible to meter loads up to 1,200 amp. by use of only two units. It is simple, small, easy to install, and designed especially for use with watt-hour meters.

Latest Welder Is Hooked Up in Parallel for Desired Capacity

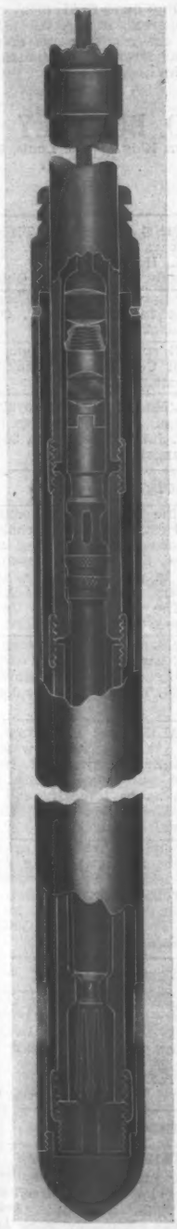
Not only does the new P&H-Hansen Model WA-200 (square-frame) welder, announced by Harnishfeger Corp., Milwaukee, Wis., readily adapt itself to production-line manufacture, but it provides simple adaptation for use in parallel hookups. This feature is of im-

portance in plants where welding jobs requiring large amperages are met frequently but where the run-of-the-mill job is one calling for welding heats up to 225 amp. Thus it is not necessary to stand the expense of a large welder seldom used, for with two or more of these WA-200's the user always has the extra capacity needed.

These new square-framed, compact welders, which occupy only 3½ sq. ft. of floor space, give a welding range from 40 to 225 amp. Where a wider range is desired, as is the case in many plants for an occasional job, they may be mounted one on the other and hooked in parallel. When two units are mounted in parallel, such an installation provides two 225-amp. welding services, or one 450-amp. welding service. Thus installed, they may be used singly or in parallel, connected or disconnected at will by means of a paralleling switch mounted on the unit at the bottom.

New Tubing Anchor and Liner Cuts Costs of Pulling Jobs

The Patterson tubing anchor and liner, manufactured and distributed by W. O. Patterson, 120 Southwest Twenty-fourth Street, Oklahoma City, Okla., is designed for pumping wells with an excessive amount of gas and sand. It is made in sizes 4, 4¾, 5½, and 6⅝-in. sizes o.d. with length optional. It has solid steel head with insert threads. The head is bored to take 2, 2½, or 3-in. tubing, with a 5-ft. spacing nipple of correct diameter to allow setting of the anchor on bottom with proper tension on the tubing. There is a bull plug at the bottom with insert threads for cleaning anchor.



According to the manufacturer this tubing anchor and liner eliminates agitation at the bottom of the well. By making use of the spacing nipple through the steel head, the tubing anchor can be placed on the bottom of the well while the tubing remains suspended, thus eliminating agitation by preventing lateral and reciprocating movements as the tubing breathes during the pumping operation.

This feature prevents gas-lock by permitting complete submergence of valves even though the fluid level is extremely low. By making use of the top swinging and seating head the use of an outer jacket may be dispensed with, eliminating expensive stripping jobs.

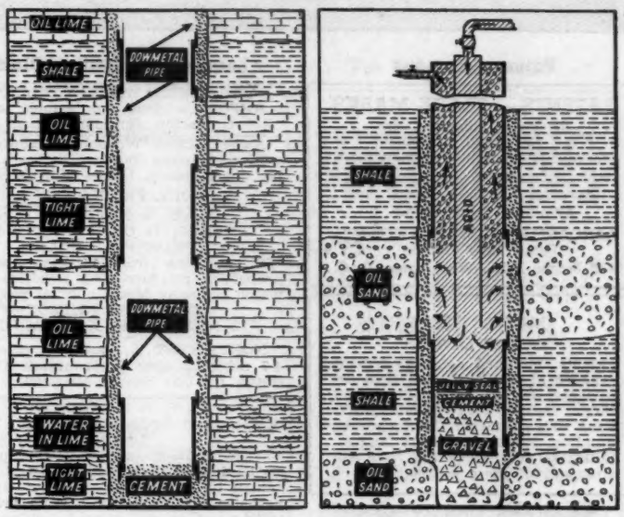
Foote Salesmen Meet

Foote Bros. Gear & Machine Corp. held a general sales convention recently at the Hotel Del Prado, Chicago, Representatives from throughout the United States, city salesmen, members of the general sales department, and executive officers attended. Talks and papers gave the men a better idea of the company's products. There was an open discussion of "How Can the Company Help the Salesmen Sell More Goods." The convention was conducted by F. A. Emmons, vice president and general sales manager, and the opening address was made by F. H. Fowler, president and general manager.

Dowell Announces New Magnesium-Alloy Pipe

Announcement has just been made by Dowell, Inc., of a new magnesium-alloy pipe which is completely acid soluble. Dowell claims this new pipe, tradenamed Dowmetal, when used in the oil string of pipe or in liners, offers many advantages in completion and corrective practices. Results of various tests indicate that through the use of Dowmetal pipe an operator can drill through an upper pay, land the oil string immediately above a lower pay horizon and cement the string. Thereafter the well may be produced in accordance with best production practices. According to Dowell engineers, the Dowmetal section and the cement opposite the upper pay zone, can be removed chemically later leaving the upper pay exposed for production. Such an application results in an efficiency of completion and production equaled only by drilling a new hole. Such an application as this is illustrated.

It is further claimed that after the Dowmetal pipe and cement have been removed a full-hole diameter cemented steel pipe remains between the pay zones. This prevents the sloughing off of a caving formation. This completion method also allows maximum drainage, so important in low-pressure areas.



Dowmetal pipe opposite a multiple number of pay zones with steel casing landed and cemented in tight lime below the water. Typical Dowmetal removal job with acid, showing gravel pack, cement cap and protective blanket of jelly seal

The entire pay formation may be explored before the oil string of casing is run and cemented, with the assurance that undesirable gas and water zones may be cased and cemented off and that the productive zones may be exposed to production. The several short sections may be easily and quickly removed by acidizing methods.

In high gas-oil ratio areas where a known gas cap is prevalent, the steel pipe may be cemented through the gas-cap area with Dowmetal pipe below and opposite the oil zone.

Dowmetal pipe also may be used in the oil string very close to the bottom. When a pay has been drilled into water and a definite oil-water contact is apparent, Dowmetal offers an economical method of meeting this problem.

A well which has been producing after having been shot or acidized, and has started making water, may be conditioned by running a liner to the bottom and cementing. The liner should have a Dowmetal section above the water contact and opposite the oil-producing section of the pay. The section and cement may be removed with acid. By a similar method high gas-oil ratio wells may be conditioned.

In wells with multiple pay zones and particularly in lime wells, removable Dowmetal sections offer a means of positive control of acidizing these zones. The cemented steel pipe above and below each pay zone makes the successful setting of packers assured.

Dowmetal liners and cement can be quickly removed with acid should it be desirable to deepen to a lower horizon with the maximum-diameter hole.

The running of Dowmetal pipe is accomplished without the use of special tools. One section can be welded to another. Dowmetal sections cannot be welded to steel sections. However, for such connections regular A.P.I. thread joints are recommended.

TABLE OF RELATIVE WEIGHTS OF STRUCTURAL METALS

Material—	Specific gravity	Relative weight	Weight Lb./cu. in.	Weight Lb./cu. ft.
Dowmetal	1.8	1.0	0.065	112
Aluminum alloy	2.8	1.6	0.101	175
Zinc	7.1	3.9	0.256	443
Cast iron	7.2	4.0	0.260	450
Tin	7.3	4.1	0.264	456
Steel	7.9	4.4	0.285	493
Brass	8.5	4.7	0.307	531
Bronze	8.8	4.9	0.318	550
Nickel	8.9	4.9	0.322	556
Copper	8.9	4.9	0.322	556
Lead	11.3	6.3	0.408	706

Although Dowmetal has definite applications and mechanical properties to permit its use in oil wells, it is not to be considered as a substitute for steel pipe. Generally, the same procedure should be followed that constitutes good practice for running steel pipe.

The principal advantage of using Dowmetal pipe, it is said, is its ease of removal with inhibited hydrochloric acid after the string has been cemented in place. Removal may be accomplished by either of three methods: (1) The circulation method, (2) the rocking method, (3) the acid-jet gun method.

Dowell engineers point out that the average specific gravity of Dowmetal alloys is 1.8, while the heaviest alloy has a specific gravity of only 1.83. Dowmetal is the lightest structural metal in use today and combines a very high strength-weight ratio with toughness and fatigue endurance. These qualities enable it adequately to meet the many strenuous uses to which it is put.

Action of Oils, Heat, Chemicals Resisted by Neoprene Belt

Manheim Manufacturing & Belting Co., Manheim, Pa., manufacturer of the Veelos adjustable V-belt, has announced a similar line of adjustable V-belting made of neoprene. This belt is made to meet the increasing demand for a V-belt drive that will give longer, trouble-free service in the presence of oil, strong chemicals, heat, or a combination of them.

Quickly adjustable to length, it offers the same installation advantages of regular Veelos V-belts by eliminating the direct installation cost and machine down-time required for installing endless V-belts on many drives.

Since neoprene belt is also adaptable to any V-drive, a short roll of it provides instant availability of any length, insuring continuous machine operation. It can be uncoupled from the roll in less than a minute, and then can be made truly endless on any drive in less than a minute, according to the Manheim company.

Captain Higgins on Flying Trips

Capt. A. E. Higgins, vice president in charge of sales for Pittsburgh Equitable Meter Co. and Metro Nordstrom Valve Co., is making a series of flying trips throughout the country. Piloting his own plane, Captain Higgins has found that he can cover several thousand extra miles of traveling to keep in close contact with the various offices of his organizations from the Pacific to the Atlantic.

During the past 3 weeks he has been on the Pacific Coast conferring with executives of various petroleum companies, gas corporations and public utilities. He planned to attend the sessions of the Pacific Coast Gas Association in San Francisco, September 6 to 9.

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LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

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200 Don Juan Bldg., Santa Fe, N. M.

SACRAFICE 40-acre Oil Lease, Chaves County, for only $10.00, full price. Guarantee title. P. O. Box 191, Clovis, N. Mex.

BREWSTER COUNTY—TEXAS
DEALERS—Offer land in fee. All oil, gas, and other minerals included. TEN ACRE tracts and up very cheap. Write A. C. Smith, P. O. Box 200, San Antonio, Tex.

ANYONE interested in drilling test well on five thousand acre block, Carroll County, Missouri, Communicate with J. C. Lumsden, Wakenda, Missouri.

NOT leased—700 acre tract at Rising Sun on Wabash River, White Co. Ill. near prod. Offers considered. John M. Eckley, 319 Midland Sav. Bldg., Denver, Colo.

WANT 365 ac. drilled on shares. Solid block. About 20 mi. SW Independence, Kans. Near prod. J. N. Lawler, 601 S. Summit, Girard, Kansas.

MISSOURI Leases in blocks and scattered acreage. HARRAH and FRITH, Chillicothe, Missouri.

LEASES FOR SALE
50 A. offset to well now drilling at 800 feet, Lagrange Co., Ind. near Mich. line, $500.00 to first taker. Few other leases reasonable, get Trenton rock 2,225 ft. J. W. Hunt, Lagrange, Indiana.

WILL BUY mineral interests in West Texas and New Mexico. Submit full details. Box 585, Amarillo, Texas.

HAVE some choice oil leases near three wells to start drilling soon. All Arbuckle Lime tests, on structure. Cheap. Geologist, Box 441, Winfield, Kans.

ROYALTY: 1/64 of 1/8 on 3200 acres Brewster County, Texas, Sec. 265.91.15, Block G.4.5.17. Price $3.00 per acre. OIL AND GAS LEASES: 600 acres in 40 acre tracts, in Chaves, De Baca, Socorro, Lincoln, Guadalupe, Torrance, San Miguel, Eddy, San Juan, McKinley counties, New Mexico; $30.00 per acre. George Wagner, 3715 Melbourne Road West, Cleveland, Ohio.

KENTUCKY and INDIANA
Two wildcat blocks one each state. Drilling contract let on both blocks. Operations start 30 days. 10-acre tracts each block—$25.00 each, $50.00 for two tracts. Geological reports. Brokers write:
BURGER & SIEP
P. O. Box 426 Paducah, Kentucky

Leases and Drilling Blocks

NEW MEXICO WEEKLY OIL SCOUT REPORT. — Send for sample copy. Roy G. Barton, Box 968, Hobbs, N. M.

EAST TEXAS Woodbine—Trinity sand wildcats starting shortly offer best chances big quick money, Leases—Royalties.
E. CROFT, PROCTOR, TEXAS.

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NORTHWEST ¼, southwest ¼, section 4-7 north, 3 east; Pottawatomie County. Hatler Oil Co., Neosho, Missouri.

F. V. B. PRICE
Experienced Geologist—Oil, Gas, Water Locater.
R. F. D. 2, Saltillo, Mississippi
My Geological knowledge and locating was gained by many years of study and experience, application of a radio principle testing out at and around drilling wells and checking them as they were finished by my method of testing. I can give 95 to 100% accurate reports a showing light or heavy production whether it pinches out or chops off abruptly. I have a large oil pool located in this part of Mississippi, want someone to develop it on an equitable basis. This pool contains around fifteen thousand acres.

THE NEXT BIG PAY
20 year old shallow field in Indiana. Has big production possibilities close to market. Have 4500 acres in Grant, Huntington, and Wells counties. Will sell, or lease on deep drilling contract.
R. D. STEWART
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State Oil and Gas Leases
Buy on known structures where major companies own leases. 50c per acre. 5c rentals. Other leases as low as $6.00 per forty. Write for lists. Twenty years in the business without a complaint.
HARRY S. WRIGHT, STATE LESSEE
Registered Dealer—State of Iowa.
Box 166, Council Bluffs, Iowa
Box 347, Santa Fe, New Mexico.

FOR SALE: 106 ac. lease with 21 producing wells, complete with pumping equip. and tanks, located in Caddo Parish, La., Wilson Oil Corp., Jasper, Ind.

Leases and Drilling Blocks

WANT to buy producing oil lease or producing royalty. Will also buy oil payments. Give full details, description, and price. Address Box K-271, The Oil and Gas Journal, Tulsa, Oklahoma.

GEOLOGIST has parties wanting acreage with production; leases on structure considered. Arthur Nickell, Fayette, Mo.

WILL assign ¾ interest in either tract below for drilling of first well. Corniferous sand. Average depth 600 ft. 236 acres with offset to drill, this joins tract with well now producing. 391 acres, gas to east and northeast. 107 acres on which 5 bbl. well was once drilled, no other drilling. Rogers and Ramsey, 1216 High St., Bowling Green, Kentucky.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Business Opportunities

FOR SALE — Fully integrated natural gas properties, situated in Kansas and Missouri, consisting of over 400 meters, 70 some odd miles pipe line, 15 or more producing gas wells, franchises on five towns, and leases on over 3,000 acres of gas producing acreage. Price: $60,000. Inquire of LOUIS C. CYR, 45 Melrose St., Lawrence, Massachusetts.

FOR SALE
Complete Rotary mud plant in Okla. Ready to go. Write P. O. Box 2603, Tulsa, Oklahoma.

For Sale—Maps

TEXAS and NEW MEXICO
UP-TO-DATE OIL DEVELOPMENT MAPS
Zingery Oil Map Co., Fort Worth, Tex.

R. B. ROBINSON MAPS
Jackson, Miss. 312 Century Bldg.
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MISSISSIPPI MAP
Shows drilling tests, dry holes with elevations and total depths. Scale 1" = 8 miles. Size 26" x 48". Prices: Paper, $7.50—linen, $10.00.
E. C. JACOBSON MAPS
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Tulsa, Okla.

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Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

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PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
703 Kennedy Bldg., Tulsa, Okla.

WILL buy producing royalties and mineral rights in Arkansas. P. O. Box 807, El Dorado, Arkansas.

PRODUCING royalty investments wanted. Sebago Oil Co., 719 McBirney Bldg., Tulsa, Oklahoma.

FOR SALE: Non-production royalty undivided 1/32 of ⅛—4.605 acres, Pecos County, Texas. John P. Stouppas, 38 South Watt St., Youngstown, Ohio.

Situations Wanted

Oil and Gasoline Distributing Companies! Corporate real estate, taxation, chain leasing man; specialist property tax assessment reduction; appraisal; successful tax saving record in present position greatly exceeding salary remuneration. Address Box K-262, The Oil and Gas Journal, Tulsa, Oklahoma.

FIRST CLASS refinery draftsman. Piping, structural steel, reinforced concrete and general engineering experience. Address Box K-263, The Oil and Gas Journal, Tulsa, Okla.

OIL SPECIALIST tax consultant. Age 37. C.P.A. 14 yrs. experience, which includes systematizing, financial reports, and diversified public accounting. Highest credentials as to integrity and creative ability. Address Box K-130, The Oil and Gas Journal, Tulsa, Okla.

SOME independent producer needs an engineer. I want to learn leasing, financing. I have 16 months' varied experience. 1938 P. E. from Colorado Mines. Now employed. I can get things done for you. Address Box K-270, The Oil and Gas Journal, Tulsa, Oklahoma.

Addresses Wanted

SIZABLE REWARD for first definite information present whereabouts
M. C. (Cliff) Archer, J. A. Dempsey, Harry Ginsberg, Ray L. Stovall, Ray Ranne, Denver D. (Jack) Black.
ORVILLE ROBERTS
Box 1585 Tulsa, Okla.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken, treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, Calif.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment For Sale—Equipment For Sale—Equipment For Sale—Equipment

3,000 Barrel Refinery Located at Russell, Kansas

WE WILL AID IN FINANCING FOR OPERATION.

Also dismantling Electric Refinery, Oklahoma City—Stockyard station—Complete skimming plant.

Wire — Phone — Write

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba,
Riverview at Second, Kansas City, Kansas

Robt. W. Duden,
2100 S. Union, Tulsa, Oklahoma

FOR SALE—Cable-tool unit, consisting W.O.K. Waukesha engine with O.C.S. reverse clutch; butane tank; light plant. Murray Tool & Supply Co., Tulsa, Okla. 4-0144.

FOR SALE—Appx. 3500' of 4½" Drill Pipe Reed Shrink Grip Joints, like new. MAJOR TOOL & SUPPLY CO., Box 4485, Oklahoma City, Oklahoma.

FOR SALE

HOUSTON, TEXAS INDUSTRIAL DISTRICT. 27 acres whole or part. Steel shed 75-x300; equipped with 7 ton Milwaukee traveling crane, ideal for oil tool manufacturing plant. Rail, water, highway connections. Further details upon request. Write, phone, or wire: The Vaughan Lumber Co., P. O. Box 1447, Houston, Texas.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

EQUIPMENT FOR SALE

2—25 H. P. Superior Gas Engines Complete.
1—67 ft. Lee C. Moore Pumping Derrick.
1—74 ft. Lee C. Moore Pumping Derrick.
1—250 Barrel Wood Tank.
1—100 Barrel Wood Tank.

All material located near Oilton.
1311 Hunt Bldg., Tulsa, Okla. Ph. 3-7960.

TRACTORS

Government crawler type Caterpillars, 5 ton $375, 10 ton $695, Slightly used. Perfect condition.

O. C. EVANS
Mt. Sterling, Ky.

FOR SALE

54 sets steel bull-wheels. 7½ ft. wheels—16 inch. O. D. steel Shafts, 13½ ft. long. Good condition. Will sell all or any part. Located El Dorado, Ark. Also 20 steam pumps. Duplex-Simplex from 4½-2¾-4 to 10-4½-10.

A. A. GILBERT
4037 Mansfield Rd., Shreveport, La.

FOR SALE: 2 Model 6LD Buda Diesel Drilling Engines, 225 H.P. each, cost approximately $8000.00 each. Our price $2250.00 GENERAL MACHINE & SUPPLY CO., Wichita Falls, Tex.

Legal Blanks

SINCE 1908 Burkhart's legal forms—servicing Mid-Cont. oil fields, including Ill., La., Mo., Ind. & Ky. Free catalog & samples. Burkhart Ptg. & Sta. Co., 115 So. Cinn., Tulsa, Okla.

Financing

CAPITAL SEEKERS

Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan

10c in stamps brings valuable bulletin and data about 19 helps for capital seekers. Box 5411, Philadelphia, Pa.

Ranches—Farm Land

RANCHES and FARMS

Oklahoma, Texas, New Mexico; new low bargain prices—mountains or plains. Howard Ingram, Perrine Bldg., Okla. City, Oklahoma.

Oil Industry Printing

OIL FIELD LEGAL BLANKS

Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

WRECKING

FORMER

SHELL OIL REFINERY
ARKANSAS CITY, KANSAS

All Materials and Equipment Offered at Salvage prices.

STORAGE TANKS

250-15000 Bbl. Vertical and Horizontal

2500 TONS LINE PIPE

2"-30" Diameter

ELECTRIC MOTORS

1 hp.-200 hp., 3 Ph., 60-Cycle, 440 Volt

Machine Shop Equipment

Vertical and Horizontal Pumps

Fire Fighting Equipment

Portable Steel Buildings

Asbestos and Insulation

Building Materials

10 Miles 75 lb. Rails

3 Miles Non-Climbable Fence

5—500 HP. Boiler

Steel and Cast Iron Fittings to meet any requirement.

200,000 Fire Brick

Let us fill your Refinery needs with Superior Equipment at Salvage Prices.

BROWN-STRAUSS
CORPORATION

Main Office and Plant:
1446 Guinotte Ave.,
KANSAS CITY, MO.

Branch Office:
Shell Refinery Site
ARKANSAS CITY, KANS.

Mailing Lists

ROYALTY Lists. Oil Investor Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

New York Market

(Continued from Page 113)

mately linked with long, drawn-out warfare with the inevitable naval activity under such circumstances, is in a strong market position so far as the northeastern coast is concerned. Suppliers in this section are firm at $1.05 per barrel and report that only a slight additional pressure would be necessary to boost prices. The market on the Gulf Coast is approximately 78 to 80 cents per barrel with some refiners who are short of material asking up to 82 cents per barrel for bulk cargoes.

Crude Oil Price Changes

Effective September 13, Sohio Oil Corp. increased its crude-oil price in the Salem, Illinois, field, 10 cents per barrel, the new price being 95 cents per barrel. This is still 10 cents below the highest posted price paid for Illinois crude, but is considerably above the prices at which much of Salem's crude is going on the market.

Effective September 11, Standard Oil Co. of Louisiana posted the following prices for crude oil in the Baton Rouge (University) field in South Louisiana: Below 20 gravity, 79 cents, with 3 cents added for each degree up to and including 26° at $1, then 2 cents added for each degree up to and including 40° and over at $1.28, an 8-cent increase.

Effective September 7, Standard Oil Co. of Louisiana posted the following prices for Shreveport (Cross Lake), Louisiana crude oil: Below 25 gravity, 73 cents; 25-25.9, 75 cents, with 2 cents added for each degree up to a top price of $1.05 for 40 gravity and over. Caddo Crude Oil Purchasing Co. and Atlas Oil Corp. on September 7 each increased its price in the same field 10 cents per barrel to a new price of $1.05 flat. It was Standard of Louisiana's first entrance as a purchaser in the Shreveport field.

Rock Island Refining Co., purchasing in southern Oklahoma, effective September 1, posted new prices as follows: Below 20 gravity, 60 cents; 3 cents added for each degree up to and including 30-30.9 at 90 cents, then 2 cents added for each degree up to 40 and over at $1.10. This is a 7-cent increase in Rock Island's prices.

Crude Oil Prices

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the September 7 issue. All changes in crude-oil price schedules will be published completely in the first issue following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, La.	1.03
Smackover, Ark., heavy	.73
Illinois basin	1.05
Pecos County, Tex.	.78
Lance Creek, Wyo.	.77
Bradford, Pa.	2.00

Gravity Schedule

Top prices include all gravities above grades designated and low prices include all gravities below grades designated:

	Signal Hill, Calif.	Oklahoma, Kansas	Gulf Coast Texas
14-14.9	$.80	...	...
15-15.9	.80	...	...
16-16.9	.80	...	...
17-17.9	.80	...	...
18-18.9	.80	...	$.79
19-19.9	.82	...	.79
20-20.9	.85	$.70	.82
21-21.9	.88	.72	.85
22-22.9	.92	.74	.88
23-23.9	.95	.76	.91
24-24.9	.99	.78	.94
25-25.9	1.03	.80	.97
26-26.9	1.06	.82	1.00
27-27.9	1.10	.84	1.02
28-28.9	1.14	.86	1.04
29-29.9	1.17	.88	1.06
30-30.9	1.21	.90	1.08
31-31.9	...	.92	1.10
32-32.9	...	.94	1.12
33-33.9	...	.96	1.14
34-34.9	...	.98	1.16
35-35.9	...	1.00	1.18
36-36.9	...	1.02	1.20
37-37.9	...	1.04	1.22
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